



Nicholas P. Curran
1812

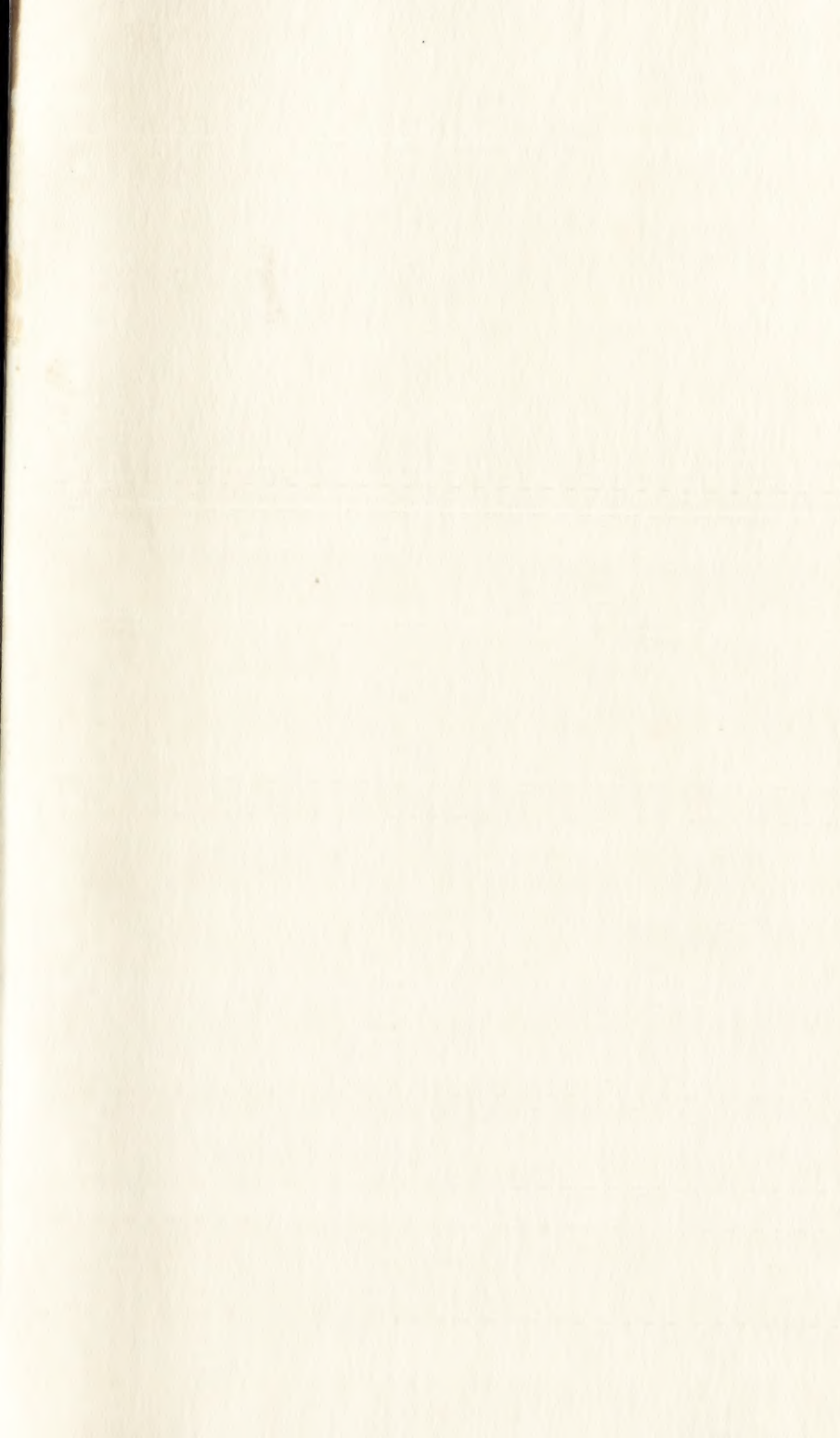
George W. Peppes

November 7. 1828

to Mr. Peppes

127.









J. Mallet inv. et delin.

C. Brignien sculp.

Duce Minerva.

A NEW AND COMPLETE
D I C T I O N A R Y
O F
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C O M P R E H E N D I N G A L L
The Branches of Useful Knowledge,

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With many A D D I T I O N S , and other I M P R O V E M E N T S .

————— *Huc undique Gaxa*
Congeritur ————— V I R G .

C V O L . I .

L O N D O N :

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M D C C L X I I I .



INTRODUCTION.

AS mankind, in at least all the polite and civilized parts of the world, are abundantly convinced of the inestimable value of Knowledge, we shall not detain the reader with needless encomiums of it; neither shall we enter upon a tedious history of the rise and progress of the several Arts and Sciences. It appears to us much more interesting, as well as more conducive to our present purpose, to employ the few pages allotted for an Introduction, in shewing how justly this work merits the title of a *Complete Dictionary of Arts and Sciences*: this we shall attempt to do, by briefly explaining the design and nature of the work, and afterwards giving a short analysis of the subject-matters contained in it.

In general, then, it is designed, and, upon examination, we are confident will be found, to be more universal and comprehensive, than any work of the like nature, hitherto published in any language: for not only are the larger branches of science, and general classes of natural objects, here explained and illustrated; but, likewise, their various subdivisions pursued throughout the most minute ramifications: thus, the properties of Points and Atoms, for instance, are by no means omitted, though contained in much narrower bounds than those of Lines, Angles, Surfaces, and Solids: here too the smallest Insect and Plant find a place, only a less one than those allotted for the description of the Elephant and Oak: in a word, it will contain, so to speak, the quintessence of literature, extracted from loads of gross materials, and especially from that chaos of words which fills up whole pages, where one paragraph might have served. But this is not all; for besides lopping off excrescences, curtailing superfluities, and wholly rejecting useless lumber, particular care has been taken to supply the deficiencies, as well as to correct what appeared to be amiss in the plans of former scientific lexicographers: hence it is that some of our articles are more full than theirs, others more concise, and a multitude of entirely new ones added; not to mention the different arrangement and disposition which obtain on many occasions. Among the new articles may be ranked most, if not all, the geographical ones, many commercial and scientific, and not a few in natural history.

This work, therefore, will make a *Complete, though concise, Body of Arts and Sciences, Natural History, and Geography*, disposed in the commodious form of a dictionary; concerning which form we find ourselves obliged to remark, that some have very injudiciously condemned the use of references. A thousand instances might be brought, to prove their being indispensibly necessary to the perfection of such a work: thus, under the general article ANIMAL, after defining what is meant by the term, and distributing it into the classes QUADRUPEDS, BIRDS, FISHES, &c. the nature of a dictionary, which treats of every thing under distinct articles, makes references to these heads, for the particular description and subdivisions of each, not only useful, but an essential part of the work. On the other hand, to avoid needless repetitions, it has been judged sufficient,

sufficient, under particular articles, HORSE, for example, to say that it is an animal of the class of quadrupeds, and order of the jumenta, or beasts of burden; taking care to give the characteristical peculiarities that distinguish it from all other animals, and refer to the articles ANIMAL, QUADRUPED, and JUMENTA, for its general and classical characters, or those it has in common with other animals of the same class and order. What has been said of Animal and Horse, will hold equally with respect to other articles; thus, from ARITHMETIC and ALGEBRA we refer to ADDITION, SUBTRACTION, MULTIPLICATION, &c. and from these back again to ARITHMETIC and ALGEBRA, for the general account of these sciences. This double reference, like a double entry in merchants books, is that bond of union whereby the various and frequently very distant parts of the work are connected together, and an harmony, simplicity, and order established, without which all would be confusion and discord. But besides this necessity of symmetry, arising from the nature of the work, the caprice of authors, in coining a multiplicity of names for the same object, has subjected lexicographers to the cruel and almost endless task of explaining the various terms they have used for one and the same thing. Now the only possible method of doing this in an accurate and scientific manner is to describe every such object under a select name, and refer from the other synonymous terms to that head, for the description.

It remains now to say something of the sources, whence the materials of this work have been drawn: and, indeed, these are too numerous to be particularly mentioned; all helps, from whatever quarter, having been used with the utmost freedom. Dictionaries, transactions, memoirs, systems, commentaries, practices, and even essays, elements, and grammars have contributed their several quotas. These, like so many rich mines, have furnished ample materials for erecting this new edifice; in which, however, they are so transformed and new-modelled, in order to fit them for their respective places, that it would be both tedious and useless to refer to the originals on every occasion. This, nevertheless, we have always taken care to do when necessary; never failing to point out the best authors on each art and science, and refer the curious to books where farther information on the most interesting subjects may be obtained.

With respect to the copper-plates, it is sufficient to observe, that they must greatly enhance the merit of the work; since, without them, the most accurate descriptions seldom convey such distinct ideas of things as could be wished. On the other hand, the descriptions serve to explain the copper-plates: for though the engraver has, indeed, with much ingenuity, delineated the many mathematical schemes, figures, machines, instruments, animals, plants, and other curious productions of art and nature, selected for the illustration and embellishment of this work; yet their properties, construction, and various uses must be learned from the description given of them under their respective articles.

Having thus, in few words, explained the design and nature of our undertaking, we shall next proceed to lay down a plan of the subject-matter: but as this is a task of no small difficulty, it will be necessary, in order to assist our own as well as the reader's imagination, to subjoin the Table or Scheme of Knowledge; by which, as by an intellectual compass, we have steered our course through the vast ocean of literature. It is constructed upon a very different plan from all that have fallen within our notice: that of Mr. Chambers has been generally disliked, as too scholastic and abstracted; and even that of the great Bacon, with all the improvements of the ingenious authors of the french Encyclopædia, is, in our
opinion,

opinion, too complicated, inasmuch as it blends the consideration of the human soul with that of the objects of its knowledge. On this last foundation it is that the annexed general Scheme of Human Knowledge has been drawn up; which, we flatter ourselves, has the advantage of any of those before-mentioned, not only as being more simple and natural, but likewise fuller and more accurately distributed.

This scheme is branched out, first into the General and Particular objects of Knowledge: under the former, or general branch, are comprehended Metaphysics, Ontology, or First Philosophy; which are again subdivided into general Pneumatology, Physics, Mathematics, Physiology, and Chronology: all which are either employed about the essences or general attributes of Beings, as will be explained afterwards. Under the second grand branch of knowledge are comprehended all particular objects, subdivided into Divine, Human, Natural, and Artificial; the first whereof includes all that we know about God and matters of religion; the second, all that more immediately regards Mankind, whether considered as Individuals, or Members of Society; the third, all Natural objects, from the Sun, Stars, and Planets, to the most minute Insect and Atoms of our earth; and the fourth, all works of Art; which, notwithstanding their manifest connection with the second branch, we have judged expedient to arrange under a separate and distinct class, for this reason, that as the admirable works of the great Author of nature are considered separately from Theology, so may the comparatively diminutive, though at the same time curious and useful, productions of human Art be considered separately from Mankind themselves. As to the many subdivisions of each of these larger branches, they may be seen in the scheme itself; which, being drawn up with no inconsiderable application and study, is submitted to the judgment of the learned, who at least cannot fail to approve of our endeavours to please them; since this desire, added to that of finding a cue to guide us through the intricate mazes of literature, was what set us upon compiling it.

We will now take a general survey of the Arts and Sciences, and as they pass in review before us, point out the most important branches treated of under each of them; which, at the same time that it serves as a farther illustration of the Scheme here referred to, will be a brief analysis of this work.

(I) METAPHYSICS, ONTOLOGY, or FIRST PHILOSOPHY, undoubtedly constitute the most sublime of all sciences, as treating of the essence and universal affections of all beings. To be a good metaphysician, one must first be a good divine, a good philosopher, and, in short, a thorough proficient in every branch of particular knowledge; he must have distinct and adequate ideas of the nature and manifold properties of beings in general; otherwise in classing, distinguishing, and variously arranging them, he must unavoidably fall into the grossest blunders: we have, therefore, endeavoured to explain the various opinions of the learned concerning Essence, Substance, Cause, Effect, Possibility, Necessity, Power, Duration, Number, Finite, Infinite, Category, Predicament, Genus, Species, &c.

(2) PNEUMATOLOGY, called also PNEUMATICS, is one great and important branch of metaphysics, which treats of spiritual beings, their powers, attributes, &c. whence arise a great many curious articles, as Spirit, God, Angel, Soul, Mind, Understanding, Idea, Perception, Judgment, Reasoning, Reflection, Sensation, &c. also Knowledge, Science, Will, Memory, Imagination, &c. all treated of in their several places.

(3) PHYSICS,

(3) **PHYSICS**, another great branch of Metaphysics, to which belongs the explanation of the general properties of corporeal beings, is subdivided into Mathematics and Physiology.

(4) **MATHEMATICS** treat of Number, Figure, and Magnitude; and hence the subordinate sciences, Arithmetic, Algebra, and Geometry: the great excellency of all which is owing to this, that as we have more distinct and determinate ideas of their principles, so likewise is the knowledge thence arising more precise and certain than that of most other sciences.

(5) **ARITHMETIC** is considered not only with respect to its fundamental operations, Addition, Subtraction, Multiplication, and Division; but likewise the rules of Proportion, Interest, Fellowship, Rebate and Discount, Tare and Tret, Fractions vulgar and decimal, Reduction, Involution, Extraction of roots, Alligation, Progression both arithmetical and geometrical, Arithmetic of infinites, Logarithms, &c. of all which, both the principles and practice are explained in the most distinct manner, and illustrated by proper examples.

(6) **ALGEBRA**, by some called literal or universal arithmetic, very properly occupies the next place, as serving to resolve all manner of problems by the same fundamental operations of addition, subtraction, multiplication, &c. But besides these it contains a great many others, very different from those of arithmetic; such are Equation, Quadratic, Biquadratic, Cubic, Binomial, Surd, Construction, Coefficient, Limit, &c. also many in common with it, as Proportion, Series, Approximation, Involution, Evolution, Fraction, &c.

(7) **GEOMETRY**, another most comprehensive as well as useful branch of mathematics, is considered as divided into elementary or common, and higher; the first, or elementary part, may be conveniently subdivided into, 1. **Planimetry**, or the mensuration of plain figures, their length, breadth, angles, diameters, diagonals, areas, &c. hence the articles Line, Triangle, Square, Parallelogram, Polygon, Circle, Ellipsis, Parabola, Hyperbola, Surface, Surveying, &c. the properties of all which are explained in their places, as are also the figures and uses of the instruments employed in describing or measuring them, as Ruler, Compasses, Quadrant, Theodolite, Circumferentor, Plane-table, Chain, Scale, Protractor, Perambulator, &c. 2. **Stereometry**, or the mensuration of solids; which may be studied under the articles Cube, Parallelopiped, Prism, Pyramid, Globe, Sphere, Spheroid, Cylinder, Cone, Frustum, Gauging, Sector, Sliding-rule, Gauging-rod, &c. As to the higher Geometry, it may be learned under the articles Curve, Curvature, Transcendental, Cissoid, Conchoid, Cycloid, Caustic, &c.

(8) **TRIGONOMETRY** is that branch of geometry which teaches the mensuration of triangles, whether plain or spherical; hence a variety of articles, as Angle, Degree, Sine, Tangent, Secant, Radius, Triangle, Base, Perpendicular, Hypothenuse, &c. all explained in their places. And as to the mensuration and properties of spherical triangles, they will be found under the articles Triangle and Spherical.

(9) **SPHERICS** contain the doctrine of the Sphere, the area of its surface, its solidity, formation, projection, &c. whence the articles Orthographic, Stereographic, Analemma, Planisphere, Pole, &c.

(10) CONICS, another branch of geometry, treat of the conic sections, as Circle, Ellipsis, Parabola, and Hyperbola: whence a variety of articles, as Axis, Asymptote, Absciss, Focus, Parameter, Ordinate, Diameter, &c. all treated of under their several articles.

(11) PHYSIOLOGY, or NATURAL PHILOSOPHY, a science of vast extent, is universally acknowledged to be the most sublime, most entertaining, and at the same time most useful part of speculative knowledge, relating to natural objects. It has for its object the Laws and various Phenomena of Nature; whence arise the articles Matter, Body, Extension, Solidity, Fluidity, Divisibility, Inertia, Motion, Gravity, Attraction, Cohesion, Electricity, Magnetism, Elasticity, Hardness, Softness, Malleability, Heat, Light, Cold, Frost, Condensation, Rarefaction, Fermentation, Generation, Vegetation, Crystallization, Nutrition, Putrefaction, Rain, Thunder, Hurricane, Cloud, Meteor, Rain-bow, Summer, Winter, Sound, Taste, Colour, Smell, &c. In short, this science may be looked upon as the basis of all Natural and Artificial Knowledge, and even of Human, so far as it regards the body.

(12) DYNAMICS constitute a branch of physiology, to which belongs the consideration of the Laws of Motion, of Percussion, of Action and Reaction, of Force, Acceleration, Retardation, Direction, Velocity, Central Forces, Springs, Powers, Weights, &c.

(13) MECHANICS are another branch of Physiology, which treat of the Equilibrium and Combination of Powers; and hence the simple machines called the Mechanical Powers, *viz.* Lever, Balance, Axis in Peritrochio, or Axis and Wheel, Pulley, Wedge, Screw, and Inclined Plane: of these are all manner of compound engines and machines constructed; some consisting of several levers; others, of levers, screws, and wheels; and others, of all the simple powers, variously combined. Hence the articles Friction, Friction-wheels, Clock, Watch, Water-works, Wind-mill, Water-mill, Crane, Capstan, Windlass, Pile-engine, Silk-engine, Orrery, &c.

(14) CHRONOLOGY is employed about Time, and comprehends not only the larger periods, as the Julian and Victorian Periods, the Christian *Æra*, the *Hegira*, Spanish *Æra*, &c. but likewise its lesser divisions, as Hour, Day, Week, Month, Year, Olympiad, Lustrum, Cycle, Age, Century. Hence also a variety of articles, relating either to the methods of computing time, or the instruments for measuring it, as Fasti, Calendar, Almanac, Easter, Epact, Golden Number, Style, Julian, Gregorian, Indiction, Dial, Watch, Clock, Water and Sand-glasses, &c. all explained in their proper places.

(15) THEOLOGY, considered as a branch of Pneumatology, treats of the Being and Attributes of God, and is either Natural or Supernatural, according as its principles are derived from Reason or Revelation; hence also the articles Eternity, Omnipotence, Omniscience, Ubiquity, Creation, Providence, &c.

(16) RELIGION is of much greater extent, as comprehending the Creeds, Festivals, Ceremonies, and Rites of the almost numberless sects to be found among Christians, Jews, Mahometans, and Pagans. Our general division of these is into True and False; Christianity and Judaism being ranked under the former, and Mahometanism and Paganism under the latter: however, to prevent

vent being misunderstood, let it be remarked, that we do not mean this of Judaism as professed by the modern Jews, but such as it was before the coming of our Saviour, and as delivered in the Old Testament; for as to modern Judaism, it is perhaps more absurd than Mahometanism.

The principal articles treated of, under this head of Religion, may be classed in the following manner, 1. The various Sects, as Protestants, Papists, Arians, Arminians, Socinians, Brachmans, Gymnosophists, &c. 2. The Rites and Ceremonies, as Baptism, Eucharist, Ordination, Circumcision, &c. 3. The different kinds of Worship, as Adoration, Prayers, Psalmody, Sacrifice, &c. 4. The Festivals, as Christmas, Easter, Pentecost, Passover, Bacchanalia, &c. 5. The Fasts, as Lent, Ramadan, &c. 6. The sacred Books, as Bible, Alcoran, &c. 7. The sacred Ministers, as Priest, Bishop, Mufti, Dervis, &c. 8. Places and Utensils of worship, as Church, Chapel, Temple, Mosque, Altar, &c. all which are explained in the order of the alphabet.

(17) ANTHROPOLOGY includes the doctrine of Human Nature, considered in general; the Rank which mankind hold in the Creation; the Union of Soul and Body, and the Laws thereof; the Immateriality, Rationality, and Immortality of the Soul; the unalienable Rights and Privileges of every individual, as Self-preservation and Liberty; the Faculties and Desires common to the whole human race, as Understanding, Desire of Happiness, Sociability, &c.

(18) LOGIC, a science much cultivated both by antient and modern philosophers, and justly held in the highest estimation, has the Faculty of the Human Understanding for its object, and is consequently but a branch of anthropology. It considers the Origin of Human Knowledge, shews how Ideas or Notions are formed, compares them to discover their Agreement or Disagreement, teaches the Rules of Ratiocination, and explains the Methods pursued in the Investigation of Truth. Hence arise a multitude of important articles, as Perception, Idea, Sensation, Reflection, Abstraction, Composition, Division, Judgment, Proposition, Affirmative, Negative, Universal, Particular, Absolute, Conditional, Self-evident, Argument, Axiom, Principle, Syllogism, Terms, Premises, Conclusion, Figure, Mode, Sorites, Dilemma, Sophism, Enthymeme, Truth, Falshood, Evidence, Demonstration, Method, Analysis, Synthesis, &c.

(19) PERSONAL ETHICS, called by Bacon the Georgics of the Mind, have the Faculty of the Will for their object, and consequently are only a branch of anthropology, concerning which we cannot affirm what has been said of logic, since philosophers have only considered it as a subdivision of General Ethics, under the title of the Duties of Man to himself. Some, indeed, at the head of whom may be placed Lord Shaftesbury and Hutcheson, have treated of the Balance of the Affections, the Power of the Passions, and the Beauty of Virtue and Goodness; yet still a regular and systematical treatise on this subject seems to be much wanted. We have explained the various terms Anger, Aversion, Hatred, Desire, Hope, Joy, Pleasure, Pain, Good, Evil, Passion, Appetite, Abstinence, Temperance, &c. under their respective articles.

(20, 21) HIEROGLYPHICS and HERALDRY are sister-arts, whereof the first, by various Symbols and Emblems, tends to preserve the memory of divine objects of knowledge, whether doctrines, offices, or rites; and the latter, by the like means, perpetuates the honours of great men and families. Every religion is furnished with a peculiar set of Hieroglyphics, or mystical representations.

The;

The Egyptians of old were famous for them; the festivals of the Greeks and Romans were full of them; and even the christian and jewish religions are not without them, witness Baptism, Circumcision, Crucifixes, Surplices, &c. However, it must be confessed, that the doctrine of Hieroglyphics is by no means reduced to a system; which is the reason that though we have given the best information in our power on all these and the like heads, yet not with such precision as we could have wished. With respect to Heraldry, the case is quite otherwise; here we have explained the several Ordinaries, Charges, Colours, Metals, and Bearings; whence arise the articles Bar, Bend, Chief, Cross, Bordure, Pale, Saltier, Quarter, Dexter, Sinister, Or, Argent, Azure, Escutcheon, Shield, Crest, Supporters, Blazoning, &c. all which are described in their places, and the figures of most of them curiously engraved in the copper-plates.

(22, 23) GRAMMAR and HISTORY are also kindred branches of human knowledge, serving to perpetuate the memory of facts and inventions, and spread the knowledge of arts and sciences: the first we have considered as divided into four parts, Orthography, Etymology, Syntax, and Prosody; whence arise the articles Letter, Vowel, Consonant, Word, Particle, Substantive, Adjective, Pronoun, Verb, Active, Passive, Adverb, Preposition, Interjection, Conjunction, Number, Case, Declension, Person, Mood, Tense, Concord, Regimen, Verse, Prose, Accent, Pronunciation, Primitive, Derivative, Simple, Compound, Regular, Irregular, Language, Hebrew, Greek, Latin, English, German, French, &c. As to History, we have considered it as divided into Civil, Ecclesiastical, Natural, and Literary; hence the articles Dictionary, System, Abridgement, Elements, Synopsis, and many of those enumerated under the heads Government, Religion, and Natural History.

(24, 25) RHETORIC and POETRY are two liberal arts which owe most of their captivating charms to a good Imagination, or Genius; and, indeed, without the aid of this faculty, it is impossible to excel in any one art or science whatever. Under Poetry come the articles Poem, Epic, Dramatic, Lyric, Ode, Hymn, Psalm, Song, Satire, Elegy, Epigram, Tragedy, Comedy, Prologue, Epilogue, Soliloquy, Protasis, Epitasis, Catastrophe, Act, Scene, Pastoral, Farce, Hexameter, Pentameter, Iambic, Sapphic, Adonic, &c. And to Rhetoric may be referred the articles Elocution, Action, Disposition, Exordium, Narration, Confirmation, Peroration, Figure, Trope, Exclamation, Apodrophe, Epiphonema, Metaphor, Allegory, Hyperbole, Style, &c.

(26) MUSIC, another art depending upon imagination, we have explained in the concise manner consistent with perspicuity; the terms are not only defined, but the grounds of Harmony accounted for; and both antient and modern Music illustrated under a variety of articles, as Diagram, Chord, Character, Scale, Interval, Cleff, Bass, Tenor, Treble, Genus, Chromatic, Enharmonic, Diatonic, Gamut, Solfaing, Temperament, Tone, Note, Second, Third, Fourth, Fifth, Sixth, Seventh, Octave, Diatessaron, Diapente, Diapason, Allegro, Andante, Trumpet, Flute, Organ, Harpsichord, Violin, &c.

(27) ARTS, in general, might be referred to the imagination; but we choose rather to class them according to the various uses they are intended to serve, as may be seen afterwards.

(28) ANATOMY has the constituent parts of the human body for its object, which the reader will find concisely and distinctly explained in their places, such are Head, Breast, Thorax, Abdomen, Arm, Leg, Artery, Vein, Nerve,

Muscle, Bone, Gland, Heart, Stomach, Spleen, Liver, Lungs, Gall, Blood, Chyle, Aorta, Carotids, Subclavian, Spermatic, Epigastric, Vena Cava, Porta, Jugular, Hand, Foot, Cartilage, Articulation, &c.

(29) **MEDICINE** has the Health of mankind for its object, and therefore is employed either in preventing or curing the many diseases to which they are liable; in treating of which we have only briefly touched upon *Ætiology*, *Diagnosis*, and *Prognostic Signs*, in order to make room for the *Therapeutic part*, or method of cure. Many are the articles belonging to this subject, but the most considerable are these, *Disease*, *Symptom*, *Prognostic*, *Diagnostic*, *Pulse*, *Urine*, *Crisis*, *Regimen*, *Fever*, *Agues*, *Gout*, *Rheumatism*, *Peripneumony*, *Pleurisy*, *Apoplexy*, *Epilepsy*, *Palsy*, *Polypus*, *Palpitation of the Heart*, *Madness*, *Hydrophobia*, *Convulsions*, *Consumption*, *Scurvy*, *Dropsy*, *Colic*, *Plague*, *Leprosy*, *Diarrhoea*, *Dysentery*, *Erysipelas*, &c.

(30) **PHARMACY**, an art subservient to medicine, treats of the *Uses and Preparations* of all medicinal *Drugs*, whether simple or compound, natural or artificial; these are of different kinds, as *Earths*, *Salts*, *Sulphurs*, *Metals*, *Plants*, *Animal Substances*, *Oils*, &c. and are arranged under different classes, according to their different qualities, and curative intentions, as *Evacuants*, *Alteratives*, *Astringents*, *Styptics*, *Cathartics*, *Emetics*, *Emollients*, *Narcotics*, *Sudorifics*, *Diaphoretics*, *Cardiacs*, *Vulneraries*, &c. The *Simple*s belonging to each of these are described with exactness, the *Preparations* explained, and the *Virtues* enumerated, as delivered in the best *Dispensatories* and writers on the *Materia Medica*: In order to be convinced of this, the Reader needs only consult the articles *Amber*, *Ammoniac*, *Balsam*, *Scammony*, *Aloes*, *Almonds*, *Cinnamon*, *Sassafras*, *Jalap*, *Bole*, *Cinnabar*, *Rhubarb*, *Manna*, *Guaiacum*, *Colocynth*, *Sena*, *Opium*, *Musk*, *Electuary*, *Extract*, *Tincture*, *Syrup*, *Troche*, *Pill*, *Mithridate*, *Theriaca*, &c.

(31) **CHEMISTRY** is an article subservient indeed to medicine, but by no means confined to that branch: it teaches the methods of preparing the different kinds of *Salts*, *Oils*, *Amalgamas*, *Calxes*, *Crocuses*, *Reguluses*, *Sublimates*, *Spirits*, &c. used in medicine; also the *Smelting*, *Refining*, and variously ordering of *Metals* for the common uses of life: so that to Chemistry may be referred the many operations of *Smithery*, *Coinage*, *Plumbery*, *Foundery*, &c. To it likewise belong the arts of making *Glass*, *Lime*, *Soap*, *Pot-ashes*, *Malt*, *Beer*, *Wines*, *Vinegar*, *Dying*, *Enamelling*, *Etching*, *Tanning*, &c. Hence a multitude of extremely useful articles, as *Calcination*, *Distillation*, *Sublimation*, *Rectification*, *Solution*, *Mentruum*, *Crytallization*, *Precipitation*, *Brewing*, *Fermentation*, *Clarification*, *Amalgamation*, *Fluxes*, *Alkahest*, *Aqua fortis*, *Aqua regia*, *Furnace*, *Crucible*, *Retort*, *Coppel*, *Muffle*, &c.

(32) **SURGERY**, another art subservient to medicine, teaches the several manual operations, as well as the treatment of the various external accidents and disorders to which mankind are subject; hence the articles *Amputation*, *Cæsarian Section*, *Cutting for the Stone*, *Phlebotomy*, *Scarification*, *Incision*, *Wound*, *Ulcer*, *Abscess*, *Tumour*, *Aneurism*, *Fracture*, *Luxation*, *Cancer*, *Gangrene*, *Mortification*, *Venereal Disease*, *Piles*, *Rickets*, *Ruptures*, &c. also the instruments used for this purpose, as *Knives*, *Lancets*, *Scissors*, *Catheters*, *Bandages*, *Trusses*, *Probs*, *Spatula*, *Needles*, *Ambe*, *Tournequet*, &c.

(33, 34) **COSMETICS** and **GYMNASTICS** have the beauty and vigour of the body for their objects. Cosmetics imply the art of improving the complexion; and

and Gymnastics, of rendering the body robust and active by a course of proper exercises. Among the articles belonging to these subjects may be reckoned, Dentifrices, Washes, Creams, Salves, cosmetrical Waters, Walking, Riding, Running, Bowling, Boxing, Wrestling, Fencing, Dancing, &c.

(35) GENERAL ETHICS, or MORALITY, comprehend the Duties which Mankind owe to each other, independently of positive institutions, or the laws of particular societies; all comprized under the golden maxim, of treating others as we would wish they should treat us, were we in their circumstances. Hence arise the articles Hospitality, Truth, Justice, Humanity, &c. also the opposite vices, Inhospitality, Pride, Barbarity, Injustice, Falshood, &c.

(36) LAW treats of the positive regulations of society, for preserving peace and good order, and the maintenance of justice. It explains the Rights and Privileges of every member, whether Nobleman or Commoner, Clergyman or Layman; and specifies the penalties, which the infringers of those Rights incur. Every state has peculiar laws of its own; thus the Romans had their Civil Law, still of great account in most nations of Europe; the French, the Salic Law, and the arrest of their arbitrary monarch; and, to mention no more, Great Britain is blessed with laws enacted by the joint consent of the King, Lords, and Commons. Many are the articles which come under this head, as Statute, Act, Decree, Charter, Corporation, Clergy, Freehold, Manor, Copyhold, Bill, Bond, Will, Guardian, Executor, Administrator, Lease, Devise, Livery, Indictment, Felony, Treason, Judge, Jury, Challenge, Habeas Corpus, Court, Chancery, King's Bench, Common Pleas, Court of Requests, Plea, Trespas, Attachment, Capias, &c.

(37) GOVERNMENT very properly comes after Law, being only a power, lodged in the hands of one or more magistrates, to carry the laws into execution. 1. With regard to its different forms, and supreme magistrates, we have treated of Aristocracy, Democracy, Oligarchy, Monarchy, Arbitrary, Free, Mixed, Elective, Hereditary, Emperor, King, Consul, Archon, Senate, Sultan, Sophi, Czar, Caliph, Cæsar, Dictator, Prince, Protector, &c. 2. Its branches and subordinate magistrates, whether civil, ecclesiastical, or military; whence Archbishop, Bishop, Dean, Chancellor, Chief Justice, Mayor, Alderman, Sheriff, Bailiff, Justice of Peace, General, Admiral, Colonel, Captain, Army, Navy, Militia, Parliament, Privy Council, Exchequer, Secretaries of State, War-Office, Board of Trade and Plantations, Board of Works, Post-Office, Commissioners of the Admiralty, Customs, Excise, Stamp-Duties, &c.

(38) COMMERCE we have considered as one of the most useful and necessary parts of the whole work, and therefore have treated it with more than ordinary fullness. The natural productions, manufactures, and various commodities concerned in trade, are here accurately described; and the marks whereby to distinguish the good from the bad, and the genuine from the sophisticated, particularly mentioned: such are the Ores of metals, Diamonds, and other precious stones, Drugs for medicine, painting, or dying, Spices, Grains, Salts, Sulphurs, Earths, Woods, Fruits, Silk, Cotton, Wool, Hair, Cloths, Linens, Stuffs, Hard-ware, Glasses, China and Earthen-ware, &c. The reader will likewise find the constitution and privileges of the several Companies established in Europe for the carrying on foreign trade; the laws and customs among Merchants, for the insuring of shipping and merchandize; the constitution of the several Banks, with an account of their bank and current monies, as also of their agios, and the method of converting bank money into current money; the standards of gold and silver, and the par of foreign coins with respect to their intrinsic value, the

monies both of coin and account, weights and measures of our own and other countries; the practical part of Commerce, relating to Buying, Selling, Freighting, Factorage, Customs, Duties, Bounties, Drawbacks, Bills of Exchange, &c. and lastly, an explication of all the technical terms and phrases relating to foreign or domestic trade, together with the latest improvements in the art of book-keeping.

(39) ASTRONOMY, as is more fully shewn under its proper article, treats of the Universe, and particularly our Solar System; explains the causes of the planetary motions, the times of their revolutions, their distances, magnitudes, &c. together with the various phenomena which thence arise, as Conjunction, Opposition, Eclipse, Aphelium, Perihelium, Summer, Winter, &c. The articles belonging to this science, which are indeed very numerous, may be classed under the following heads: 1. The Bodies themselves, Sun, Moon, Earth, Venus, Mercury, Mars, Jupiter, Saturn, Satellites, Comets, fixed Stars. 2. Systems concerning them, as Copernican, Ptolemaic, Tychonic, &c. 3. Constellations, or assemblages of the fixed stars, as the twelve signs, Aries, Taurus, Gemini, &c. Ursa major and minor, Andromeda, Cassiopeia, Hercules, Argo, Perseus, Lyra, Triangle, Sagitta, Pegasus, &c. 4. Terms and particular branches of this science, as Sphere, Equinoctial, Meridian, Horizon, Zenith, Nadir, Azimuth, Vertical, Ecliptic, Zodiac, Ascension, Declination, Longitude, Altitude, Amplitude, Orbit, Node, Phases, Parallax, Stationary, Retrograde, Precession, Aberration, Ocultation, Penumbra, &c. 5. Instruments, as Globes, Armillary-sphere, Planetarium, Orrery, Telescopes, Micrometer, Quadrants, Astrolabe, &c. the description of all which is illustrated by proper schemes and figures.

(40) GEOGRAPHY is only a branch of Cosmography, which, having the description of the terraqueous globe of our Earth for its object, may be comprehended under three general heads. 1. Natural Geography, which treats of its figure and natural divisions; whence arise Earth, oblate Spheroid, Continent, Peninsula, Isthmus, Mountain, Promontory, Island, Ocean, Sea, Gulph, Lake, River, Straits, &c. 2. Political Geography, which is again subdivided into civil and ecclesiastical; the former containing a description of the political divisions of the earth into Empires, Kingdoms, Principalities, Provinces, &c. whence the articles Germany, China, Muscovy, France, Spain, &c. and the latter, an account of the ecclesiastical divisions of it, as Patriarchate, Archbishopric, Bishopric, Parish, &c. 3. The Instruments and technical terms; as Globe, Map, Equator, Meridian, Pole, Horizon, Longitude, Latitude, Climate, Zone, Amphiscii, Ascii, Periscii, Antipodes, &c.

(41) NATURAL HISTORY constitutes a branch of knowledge, on which depends the very life and well-being of mankind: for so close is our connexion with the various productions of mother-earth, that whilst some serve us for food and medicine, and others for dress and ornament, there are others which supply our manifold necessities, shelter us from the inclemency of the weather, defend us from the hostile attacks of our enemies, whether of the human or brutal kind, waft us over immense oceans, and, in short, procure us all the conveniencies as well as necessities of life. It is from our acquaintance with this study, that we derive any advantage from the strength of the ox, the swiftness of the horse, the sagacity and fierceness of dogs, the fleece of the harmless sheep, the furs of the sable and ermine-animals, or the several productions of those useful insects, the bee, silk-worm, and cochineal. The vegetable world is no less subservient to the purposes of human life. With what profusion does it furnish our tables! The mineral kingdom likewise contributes its share. Who

knows

knows not the use of Gold and Silver, of Iron and Copper, of Tin and Lead, of Diamonds and other stones, or of Salts and Sulphur? To these we have added a fourth branch more necessary than either the animal, vegetable, or mineral kingdoms. Water, Air, and Fire, are the common blessings of heaven; without which animal life could not be sustained, plants grow, or, perhaps, minerals be formed. No wonder, therefore, that mankind should prosecute this study with unwearied application! No wonder, if they erect monuments to those who make new discoveries in it!

(42) ZOOLOGY, or the science of Animals, is subdivided into six branches :
 1. Quadrupeds, whence Lion, Elephant, Horse, Camel, Rhinoceros, Ox, Sheep, Bear, Tiger, Bat, Squirrel, &c. 2. Birds, as Eagle, Hawk, Peacock, Swan, Duck, Dove, Heron, Pelican, Phœnicopterus, Cock, Pheasant, Thrush, Lark, &c. 3. Amphibious animals, capable of living in water as well as on land : such are the several kinds of Serpents, Snakes, Lizards, Frogs, Tortoises, &c. 4. Fishes, whereof some have the tail parallel to the horizon, as the Whale-kind, the Dolphin, Porpoise, Physter, &c. Some have the rays of their fins cartilaginous, as the Ray-fish, Dog-fish, Shark, Sturgeon, Stinglass-fish, &c. Others have fins with bony and prickly rays, as the Pearch, Gurnard, Ruffe, Sea-Bream, &c. Some again have fins with bony, but not prickly rays : such are the Sand-eels, Turbot, Whiting, Cod, Haddock, Eel, Conger, Salmon, River-bream, Chub, &c. And, finally, others have bony fins, but no ossicles or small bones in the branchiotege membrane, as the Sun-fish, Lump-fish, Toad fish, &c. 5. Insects, whereof some are naked, as the Worm, Leech, Gally-worm, Centipes, Millepes, &c. Others are furnished with one or two pair of wings as the Bee, Fly, Beetle, Butterfly, Locust, &c. 6. Animalcules, visible only by the assistance of microscopes, of which there are several kinds.

Subordinate to Zoology are several arts, which contribute both to profit and pleasure, as Farriery, Horsemanship, Hunting, Fowling, Fishing, the management of Cattle, of Fish, of Bees, of Silk-worms, of the Kermes and Cochineal Insects, &c. whence arise a multitude of useful articles, as Mange, Farcin, Halting, Gelding, Curvet, Volt, Capriole, Ferreting, Hawking, Net, Hound, Beagle, Angling, Cow, Calf, Mare, Foal, Sheep, Lamb, Hog, Pig, Poultry, Bee, Swarm, Hive, Honey, Silk-worm, Kermes, Cochineal, &c.

(43) BOTANY treats of the classes, characters, parts and virtues of plants : whence arise many thousands of articles, as Seed, Flower, Fruit, Root, Trunk, Branch, Wood, Bark, Leaf, Oak, Vine, Sage, Apple, Cherry, Tulip, Violet, Lilly, Tea, Sugar, Resin, Gum, &c. the characters, preparations, and various uses of all which are given under their respective heads, as has been already mentioned in speaking of Pharmacy.

(44, 45, 46) AGRICULTURE, including GARDENING and HUSBANDRY, furnishes a great many useful articles ; as Soil, Manure, Tillage, Fallowing, Plough, Drain, Sowing, Marle, Chalk, Clay, Loam, Sand, Inclosure, Hedge, Ditch, Grain, Granary, Wheat, Barley, Planting, Pruning, Grafting, Inoculating, Watering, Hot-Bed, Nursery, Green-House, Walk, Terrace, Gravel, Border, Wilderneys, Orchard, Kitchen-garden, Amphitheatre, Wall, Espalier, Arbour, Alley, Canal, &c.

(47) MINERALOGY treats of all kinds of Fossils, whether Stones, Earths, or Metals : hence the articles Mine, Ore, Gold, Silver, Iron, Copper, Tin, Lead, Quicksilver, Fluxes, Assaying, Dressing, Refining, &c. also Salt, Sulphur, Bitumen, Amber, Arsenic, Antimony, Cinnabar, Vitriol, Bismuth, Calamine, Brass,

Brass, Cobalt, Smalt, Zinc, Nitre, Alum, Armoniac, Precious Stones, Crystals; Flint, Marble, Lime-stone, Slate, Glimmer, Asbestus, Ochres, Marles, Chalk, Clay, Sand, Earth, Petrifications, &c.

(48) **HYDROLOGY** is employed in explaining the Nature, Principles, and Uses of all kinds of Waters, as Sea-water, Vitriolic Waters, Sulphureous-waters, Chalybeate-waters, Lime-water. &c. and hence Spring, Bath, Spaw, Bristol, Pyrmont, Scarborough, Tunbridge, &c. Waters. As to the medicated Waters, they belong to Pharmacy.

(49) **HYDROSTATICS** constitute that part of Natural History which explains the gravity and pressure of water: hence the articles Fluids, Gravity, Pressure, Specific-gravity, Density, Rarity, *Æquilibrium*, *Aræometer*, *Hydrostatical Balance*, *Diving-Bell*, &c. Under which we have explained the use of these machines in Geometry, Commerce, Mechanics, &c. also for finding the specific gravity of solid bodies; whereof we have given a table, as ascertained by the best writers on these subjects.

(50) **HYDRAULICS** treat of the motion of water, and the construction of all kinds of instruments and machines relating thereto. We have therefore considered this science in five different lights, according to the causes which produce this motion. 1. That arising from the natural gravity and pressure of the particles of water, which will be explained under the articles Spring, River, Fountain, Fluids, *Jet d'eau*, &c. 2. That arising from the pressure of the air on the surface of the reservoir, which will be explained under the heads Siphon, Pump, Archimedes's Screw, Pressure, &c. 3. The motion of fluids produced by the force of condensed air, considered under Water-engine. 4. That occasioned by the force or pressure of pistons, explained under Forcing-pumps. 5. That owing to attraction; whence the articles Tide, Capillary Tubes, *Hæmæstatics*, &c.

(51) **NAVIGATION** is the art of conducting a ship through the ocean, from one port to another; by which means a communication is opened between the most distant countries, and the delicacies, as well as the conveniencies of life, brought from the East and West-Indies; the manufactures and superfluities of one country are carried off, and in exchange are brought home the commodities wanted either for home-consumption, for improving and enlarging their manufactures, or as commercial articles to be exported again. As therefore Navigation is the soul of ingenuity, the spring and support of industry, and the only honourable means of enriching a nation, so useful a science deserves to be explained in the fullest and most distinct manner; which has been accordingly done under the articles Mercator's sailing, Plain sailing, Current-sailing, Middle-latitude-sailing, Great Circle-sailing, Compass, Chart, Needle, Variation, Log, Distance, Departure, Longitude, Latitude, Reckoning, Course, Traverse, Observation, Quadrants, Fore-staff, Back-staff, Astralable, Harbour, Port, Sounding, Mooring, Careening, Star-board, Lar-board, &c. together with the many articles hereafter mentioned under Ship-building.

(52) **AEROLOGY** treats of the nature and properties of Air, its Fluidity, Gravity, Elasticity, Density, Rarefaction, Principles, Atmosphere, Vapour, Exhalation, &c. whence Barometer, Thermometer, Hygrometer, &c.

(53) **METEOROLÔGY** treats of the various phænomena observable in the atmosphere, as Fog, Cloud, Rain, Snow, Hail, Dew, Rainbow, Water-spout, Halo,

Halo, Mock suns, Thunder, Lightning, Aurora Borealis, Fiery Meteors, Castor and Pollux, Will-with-the-wisp, &c.

(54) PNEUMATICS are chiefly employed in explaining the force and spring of the Air, the cause of Winds, Trade-winds, Monsoons, Hurricanes, &c. also the construction of Air-pumps, Air-guns, Diving-Bells, Water-bellows, Æolipile, Windmills, Rigging and Sails of Ships, &c. together with the doctrine of Sound, Echoes, &c.

(55) OPTICS, including Catoptrics and Dioptrics, may be considered as theoretical or practical. In the first of these views we have explained the nature and propagation of Light, the cause and Laws of Reflection and Refraction, the different Refrangibility of the rays of Light, the structure of the Eye and the nature of Vision, the appearance of objects through mediums of different forms, and the causes of the variety of colours observable in bodies, as also of opacity and transparency: With regard to the practical part, we have given the method of grinding Glasses, Mirrors, Lenses, &c. and constructing the most remarkable Optical instruments, as Telescope, Microscope, Camera Obscura, Magic Lanthorn, Polemoscope, Polyhedron, Sioptic Ball and Socket, Heliofata, Spectacles, Spying-Glasses, &c.

(56, 57) PERSPECTIVE, DRAWING, and PAINTING, are sister arts, which by means of lines, shade, and colours, exhibit on a plane the likeness of natural objects, as they appear to the eye at any height or distance, or in any attitude or other circumstances. Some of the articles, treated of under these heads, are Scenography, Orthography, Ichnography, Stereography, Anamorphosis, Reduction, Plane, Designing, Engraving, Etching, Draught, Design, Pentagraph, Claro-Obscuro, Attitude, Action, Expression, Group, Contrast, Limning, Miniature, Fresco, Japanning, Enamelling, Dialling, Drapery, Portrait, Mezzotinto, Colours, Crayon, Proportion, Prototype, &c.

(58) The artificial objects of knowledge are here classed, according to the principal purposes they are intended to serve; some being employed about Diet, others about Dress and Equipage, and others about Building and Furniture: some again are subservient to Literature, and others employed about Tools, Instruments, and Machines of all kinds. We shall now take a view of the subdivisions of this last branch of particular knowledge: And first of the Arts, respecting

(59) DIET, which affords employments for various artists and tradesmen, as Bakers, Brewers, Vintners, Cooks, Butchers, Poulterers, Fishmongers, &c. and hence the articles Baking, Bread, Bisket, Flour, Dough, Oven, Brewing, Ale, Beer, Wine, Cyder, Perry, Mead, Punch, Distilling, Fermenting, Clarifying, Bottling, Flesh, Fish, Beef, Mutton, Poultry, Wild Fowl, Venison, Pork, Bacon, Ham, Cod, Herring, Salmon, Anchovy, Apple, Pear, Peach, Nectarine, Currants, Cherries, Pine-apple, Orange, Melon, &c. also Broth, Soup, Jelly, Pudding, Pye, Custard, Sauce, Desert, Tea, Coffee, Chocolate, Sugar, Spice, Milk, Cream, Butter, Whey, Cheese, Marmalade, Burgoo, Rago, Fricassee, and a multitude of other similar articles.

(60) DRESS and EQUIPAGE give rise to still more numerous trades, the principal of which are mentioned under this branch in our general scheme of Knowledge. Hence the articles Cloth, Linen, Silks, Weaving, Fulling, Dying, Bleaching, Printing, Stuffs, Camblet, Brocade, Sattin, Cambric, Lawn, Mullin, Gown, Hat, Stocking, Lace, Fur, Gloves, Shoes, Boots, Saddles, Chariot, Coach, Chair, &c.

(61) **ARCHITECTURE**, or the art of Building, includes a multitude of subordinate arts, as Masonry, Carpentry, and those of Bricklayers, Tylers, Slaters, Glaziers, Smiths, Plasterers, &c. As to Architecture, properly so called, it considers the Solidity, Conveniency, Beauty, and Proportion of all manner of Buildings, as Church, Palace, &c. The terms, as found in Vitruvius, Palladian, Daviler, &c. are explained. The different orders, as Doric, Ionic, Corinthian, Tuscan, Composite, &c. are not only described, but illustrated by Copper-plates. Hence a variety of useful articles, as Building, Foundation, Wall, Window, Door, Gate, Porch, Column, Pedestal, Base, Shaft, Entablature, Capital, Corniche, Freeze, Volute, Module, Modillion, Astragal, Tore, Chimney, Ceiling, Roof, Floor, Wainscot, Stair, Hall, Apartment, Chamber, Cellar, Kitchen, Barn, Stable, &c.

(62) **FORTIFICATION, or MILITARY ARCHITECTURE**, comprehends a manner of Buildings and other works erected for the security and defence of a City, Town, or other places of strength. Hence the articles Fortrefs, or fortified Town, Fort, Castle, Citadel, Bastion, Curtin, Rampart, Ditch, or Moat, Counterscarp, Covered-way, Glacis, Crown-work, Half-moon, Redoubt, Platform, Battery, Mine, Trench, Parallel, Circumvallation, Contravallation, &c. all which are in the order of the alphabet, as are the systems of Coehorn, Vauban, Scheifler, &c. under Fortification.

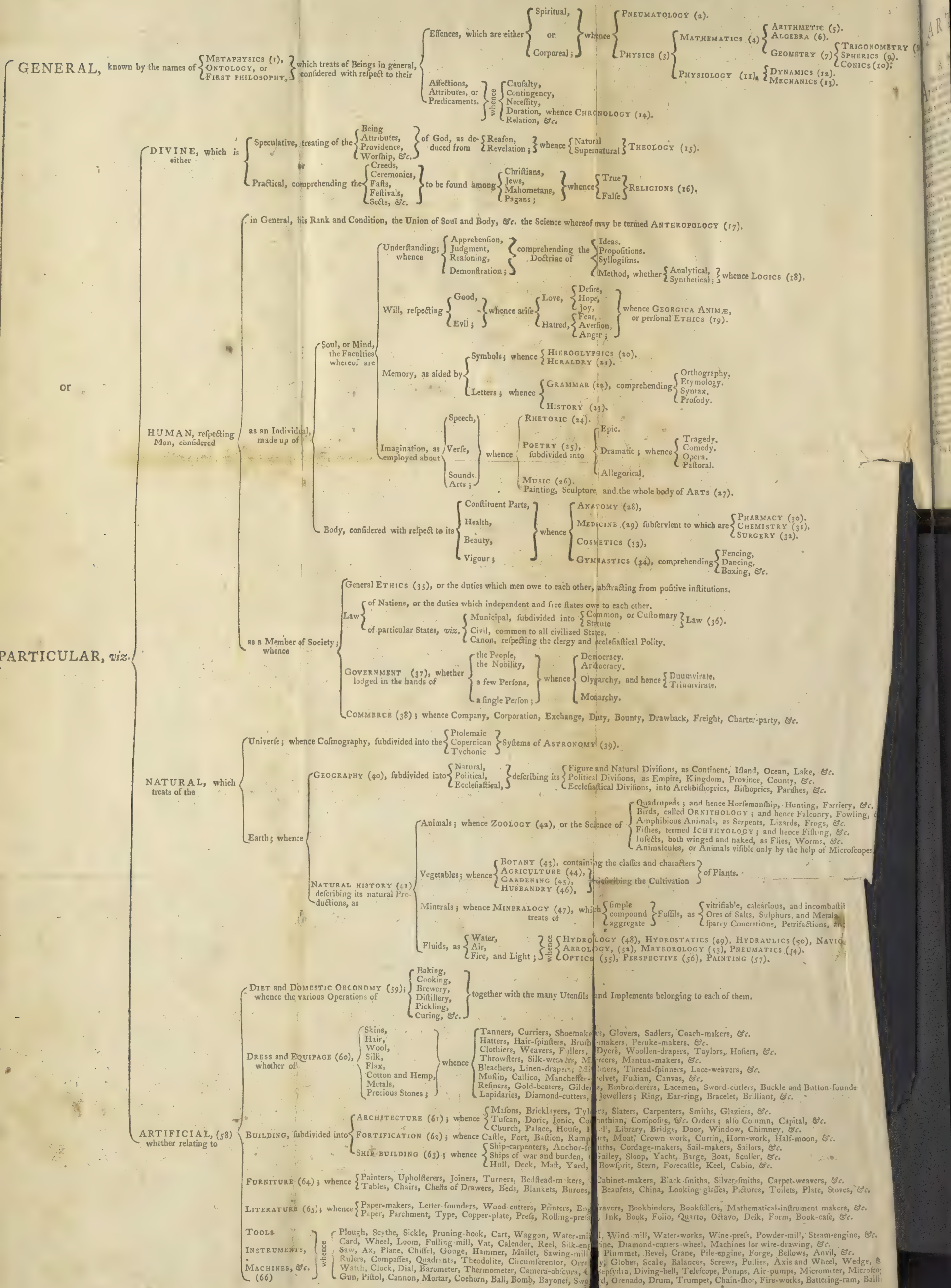
(63) **SHIP-BUILDING, or NAVAL ARCHITECTURE**, treats of the Construction, Rigging, and different parts of Ships of War and Burden, Sloops, Busses, Gallies, Barges, Boats, &c. Hence the articles Hull, Keel, Stern, Prow, Decks, Quarter-deck, Fore-castle, Cabin, Mast, Bow-sprit, Cordage, Cable, Anchor, Capitan, Pump, Yards, Sails, Tackle, Helm, Steerage, &c.

(64, 65, 66) The arts relating to Furniture, Literature, Tools, Instruments, and Machines, afford employment to a multitude of workmen, some of whom are mentioned under these heads in our general scheme, where we are likewise pretty full in regard to the works produced by them; all which the reader will find described in their places, and most of the Tools, Instruments, and Machines, illustrated with copper-plates.

Thus we have taken a general survey of the Arts and Sciences, and pointed out some of the principal subjects treated of in this Dictionary; concerning the Utility of which, no reasonable person can entertain any doubt:—not the Prince, as having fleets to be equipped, military stores to be provided, public buildings to be erected, and matters of government to be transacted;—not the Nobleman or Gentleman, who have estates to be improved, gardens to be laid out, mines to be wrought, and other works to be executed;—not the Divine or Philosopher, who will here find every branch of Literature treated in a truly scientific and consistent manner;—not the Merchant or Trader, who without a perfect knowledge of the commodities they deal in, the duties to be paid, the bounties and drawbacks to be received, and other commercial affairs, are liable to be greatly imposed on;—and, lastly, not the Farmer or Mechanic, who will here find an accurate description of the Tools and Operations of their respective arts, with many useful hints towards improving them.

A DISTRIBUTION OF KNOWLEDGE

ACCORDING TO ITS OBJECTS.



DICTIONARY

O F

ARTS and SCIENCES.

A A

A, The first letter of the alphabet, and one of the five vowels, is pronounced variously; sometimes open, as in the words *talk*, *war*; and at others close, as in *take*, *wake*.

A is also used, on many occasions, as a character, mark, or abbreviation. Thus, in the calendar, it is the first of the dominical letters: among logicians, it denotes an universal affirmative proposition: as a numeral, **A** signified 1 among the Greeks; but among the Romans, it denoted 500, and with a dash over it, thus **Ā**, 5000. The Romans also used it on public occasions for *antiquare*, to antique or reject a proposed law; as did the judges of the same people for *absolve*, I absolve or acquit; whence it had the name of *litera salutaris*. **A** is frequently also met with, denoting *Aulus*, *Augustus*, *Ager*, *Aiunt*, &c. **A. A.** stands for *Augusti*; **A. A. A.** for *aurum*, *argentum*, *aes*; and, among chemists, for *Amalgama*. **A. M.** is used for *anno mundi*, or *artium magister*. **A. A. U. C.** for *anno ab urbe condita*; **A. B.** for *alia bona*; **A. C.** for *acta causa*, or *alius civis*; and **A. D.** for *anno domini*. On ancient medals, **A** stands for *Argos*, and sometimes for *Athens*; but on coins of modern date, for *Paris*. **A**, **ā** or **āā**, among physicians, denote *ana*, or an equal weight, or quantity, of several ingredients. The letter **A** is also used by merchants, to signify accepted; among whom it is likewise usual to mark their sets of books with the letters **A, B, C**, &c. instead of the numbers 1, 2, 3, &c. **A**, or **AN**, is also one of the english articles. See ARTICLE.

AA, in geography, the name of several

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A B A

rivers, in different parts of the world. 1. Of one in the country of Sologne, in France. 2. Of one in french Flanders. 3. Of three in Switzerland. 4. Of five in the Low Countries. 5. Of five in Westphalia. 6. And, lastly, of one in Livonia.

AACH, in geography, the name of a town and river of Swabia. See the article **SWABIA**.

AADE, or **AADA**, the name of two rivers, one in the country of the Grisons in Switzerland, and the other in dutch Brabant.

AAR, the name of two rivers, one in Switzerland, and the other in Westphalia.

AATTER, a province of Arabia Felix, situated on the Red-Sea. N. B. There are several other places, sometimes spelled with **AA**, but more usually with one **A**: these will be inserted in the alphabetical order, according to the last orthography.

AB, in the hebrew chronology, the eleventh month of the civil, and the fifth of the ecclesiastical, year: it answered to the moon of our July, and contained thirty days.

ABACATUAIA, in ichthyology, an american fish of the acanthopterygious, or prickly-finned, kind. It is a species of zeus, according to Artedi, and greatly resembles the common plaice, both in size and figure. It has five fins, one on the back, and another on the belly, both running to the tail: there are other two at the gills; and the tail, which is considerably forked, makes the fifth. See plate I. fig. 1.

ABACOT, the name of the antient coronet, or cap of state, worn by the english kings, the upper part of which was made up in form of a double crown.

B

ABAC

ABACTUS, among antient physicians, a term used for a miscarriage effected by art.

ABACUS, in architecture, the uppermost member of the capital of a column. See the article **CAPITAL**.

Vitruvius tells us, that Calimachus, a statuary of Athens, invented this ornament from the following circumstance. An Athenian old woman happening to place a basket covered with a square tile over the root of an acanthus, which grew on the grave of a young corinthian lady, the plant, shooting up the following spring, encompassed the basket all around, till meeting with the tile, it curled back in a kind of scrolls. The sculptor, passing by and observing it, executed a capital on this plan, representing the tile by the abacus; the leaves of the acanthus by the volutes or scrolls, and the basket by the body of the capital.

In the tuscan, doric, and ionic orders, the abacus is flat and square; but in the richer orders, its four sides, or faces, are arched inwards, with some ornament, as a rose or other flower, in the middle of each arch, and its four corners cut off. See plate I. fig. 2.

Scamozzi also uses abacus for a convave moulding in the capital of the tuscan pedestal.

Abacus, or *Abacifcus*, in the antient architecture, likewise denoted certain compartments in mosaic pavements, and the like.

ABACUS, among antient mathematicians, was a table strewn over with dust, or sand, on which they drew their figures or schemes.

ABACUS, in arithmetic, an instrument for facilitating operations by means of counters. Its form is various; but that chiefly used in Europe, is made by drawing parallel lines, distant from each other at least twice the diameter of a counter; which placed on the lowermost line, signifies 1; on the second, 10; on the third, 100; on the fourth, 1000; and so on. Again, a counter, placed in the spaces between the lines, signifies only the half of what it would do on the next superior line. According to this notation, the same number, 1754 for example, may be represented by different dispositions of counters. See A and B plate 1. fig. 3.

Abacus pythagoricus, a multiplication-table, or a table of numbers ready cast up, to facilitate operations in arithmetic.

Abacus logificus, is also a kind of multiplication-table, in form of a right-angled triangle.

Abacus harmonicus, among musicians, de-

notes the arrangement of the keys of a musical instrument.

ABAST, in the sea-language, a term applied to any thing situated towards the stern of a vessel: thus, a thing is said to be abast the fore mast, or main-mast, when placed between the fore-mast, or main-mast, and the stern.

ABALIENATION, in the roman law, a species of alienation. See the article **ALIENATION**.

ABAPTISTON, or **ANABAPTISTON**, among antient physicians, names given to the instrument now called a trepan. See the article **TREPAN**.

ABARTICULATION, in anatomy, the same with diarthrosis. See the article **DIARTHROSIS**.

ABASED, *abaissé*, in heraldry, is said of the wings of eagles, &c. when the tip looks downwards to the point of the shield, or when the wings are shut; the natural way of bearing them being spread.

A chevron, pale, bend, &c. are also said to be abased, when their points terminate in, or below the center of the shield. Lastly, an abased ordinary, is one placed below its due situation.

ABASING, in the sea-language, the same with striking. See **STRIKE**.

ABASSI, or **ABASSIS**, a silver-coin, current in Persia, and somewhat less than the english shilling.

ABATE, in the manege. A horse is said to abate, or take down his curvets, when he puts both his hinder-legs to the ground at once, and observes the same exactness in all the times. See the article **CURVET**.

ABATELEMENT, in commerce, a term used for a prohibition of trade to all french merchants in the ports of the Levant, who will not stand to their bargains, or refuse to pay their debts.

The abatement is a sentence of the french consul, and must be taken off before they can sue any person for the payment of their debts.

ABATEMENT, in a general sense, signifies the lessening or diminishing something.

ABATEMENT, in heraldry, something added to a coat of arms, in order to lessen its true dignity, and point out some imperfection or stain in the character of the person who bears it. Abatements are either made by reversion or diminution; the whole escutcheon being turned upside down, or another inverted one added, in the former case; and as to diminutions, they are either a delf, a point, a point dexter, a point champain, a plain point, a gear



Fig. 1. ABACATUAIA.

Fig. 2. ABACUS.



Fig. 3. ABACUS, or COUNTING-BOARD.

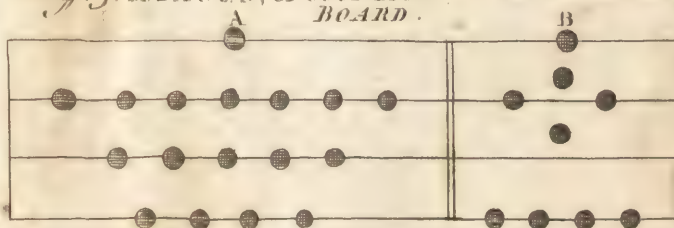


Fig. 4. ABIES, the FIR-TREE.





a goar snifter, or two gussets. See **DELF**, **POINT**, &c.

ABATEMENT, in law, signifies the rejecting a suit, on account of some fault either in the matter, or proceeding. Hence, **Plea in abatement** is some exception alledged, and proved, against the plaintiff's writ, declaration, &c. and praying that the plaint may abate or cease; which being granted, all writs in the process must begin *de novo*.

Abatement is also an irregular entry upon houses or lands, and in this sense, is synonymous with intrusion. See **ABATOR**.

ABATEMENT, among traders, the same with what is otherwise called rebate or discount. See **REBATE** and **DISCOUNT**.

ABATIS, or **ABBATIS**, in middle age writers, an officer in the stables of princes; so called, according to Ducange, from *batum*, an antient measure of corn.

ABATOR, in law, one who enters into a house or lands, void by the death of the last possessor, before the true heir; and thereby keeps him out, till he brings the writ *intrusione*. See **INTRUSIONE**.

ABB, in our old writers, is used for the yarn of a weaver's warp; and hence the wool of which it was made, had the name of *abib-wool*.

ABBA, a syriac term, literally signifying father, and used as a title of honour, particularly to a bishop or abbot.

ABBESS, the superior of a convent of nuns. See the article **NUN**.

The abbess enjoys the same privileges, and has the same authority over her nuns, that the abbots have over their monks; spiritual functions only excepted, of which the sex renders her incapable. See **ABBOT**.

ABBEVILLE, a large city of France, situated in Picardy, ninety miles N. of Paris; its N. Lat. being 50° 7' and E. longitude 2°.

ABBEY, or **ABBY**, the name of such religious houses as are governed by a superior, under the title of abbot or abbess. Abbeys differ in nothing from priories, except that the latter are governed by priors, instead of abbots.

The abbeys of England, at their dissolution under K. Henry VIII. became lay-fee: no less than 190 were then dissolved of between 200 *l.* and 35,000 *l.* yearly revenue, which at a medium amounted to 2,853,000 *l. per annum*; an immense sum in those days.

ABBOT, or **ABBAT**, the superior, or governor of a monastery of monks, erected into an abbey or prelacy. See **MONK** and **MONASTERY**,

The abbots of the primitive monasteries were men of great plainness and simplicity; but afterwards affecting not only preheminance over each other, but even to be independent of the bishop, there arose new species and distinctions of abbots into mitred and not mitred, croziered and not croziered, and oecumenical ones. Mitred *Abbots* were privileged to wear a mitre, and besides enjoyed the full episcopal jurisdiction of their several precincts.

Among us, these were called abbots-*sovereign*, or abbots-*general*, and were lords of parliament: they were twenty-seven in number, besides two mitred priors. The not mitred ones continued subject to their diocesan bishop.

Croziered *Abbots* were those entitled to carry a crozier, or pastoral staff.

Oecumenical *Abbots*, the same with universal abbots, a title assumed among the Greeks, in imitation of the patriarch of Constantinople; nor have those of the latin church been behind hand with them in this respect; some having called themselves *abbas abbatum*, or the abbot of abbots; and others assumed the title of cardinal-abbot.

Abbots, however, are chiefly distinguished, at present, into regular and commendatory; the former being real monks or religious, and the latter only seculars or lay-men. These last, notwithstanding that the term *commendam* seems to signify the contrary, have the perpetual enjoyment of the fruits of their abbeys. Antiently the ceremony of creating an abbot consisted in cloathing him with the habit called *caculla*, or cowl: putting the pastoral staff into his hand, and the shoes called *pedales*, on his feet; but at present, it is only a simple benediction, improperly called, by some, consecration.

ABBOT is also a title given to others beside the superiors of monasteries: thus bishops, whose sees were formerly abbeys, are called abbots; as are the superiors of some congregations of regular canons, particularly that of St. Geneviève at Paris: and among the Genoese, the chief magistrate of their republic formerly bore the title of abbot of the people. It was likewise usual, about the time of Charlemain, for several lords to assume the title of *count-abbots*, *abba-comites*; and that for no other reason, but because the superintendency of certain abbeys was committed to them.

ABBREVIATION, the same with abbreviation. See **ABBREVIATURE**.

ABBREVIATOR, in a general sense, one who

who abridges, or reduces a long writing into narrow bounds.

Abbreviators, in the chancery of Rome, are officers whose business, according to Champini, is to draw up the pope's briefs, and reduce the petitions granted by the pontiff into proper form. The abbreviators constitute a college of seventy-two persons, divided into two parks, or ranks; the one called *abbreviatores de parco majore*, who are twelve in number, and all prelates; the other, *abbreviatores de parco minore*, called also *examinatores*, who may be all lay-men.

ABBREVIATURE, or **ABBREVIATION**, properly signifies the substitution of a syllable or letter for a whole word: thus M. stands for *manipulus*, a handful; and Cong. for *congius*, a gallon.

Abbreviature, in a less proper sense, is used for any mark or character. See **CHARACTER**.

ABBREUVOIR, in masonry, certain indentures made with a hammer, in the joints and beds of stones, in order that the mortar being received into these, may bind them the firmer together.

ABCEDARY, **ABCEDARIAN**, or **ABECEDARIAN**, an epithet given to compositions, the parts of which are disposed in the order of the letters of the alphabet: thus, we say abecedarian psalms, lamentations, hymns, &c.

ABDALS, in the asiatic customs, a kind of furious enthusiasts, whose madness makes them frequently run about the streets, and kill all they meet of a different religion from what they profess: this our sailors call *running a muk*.

ABDEST, among mahometans, a kind of washing, or lotion, practised both by Turks and Persians, before prayers, entering the mosque, or reading the alcoran.

ABDIARA, in geography, a kingdom of Asia, dependent on that of Pegu. See the article **PEGU**.

ABDICARIAN *propositio*, *abdicaria propositio*, in logic, the same with a negative one. See the article **PROPOSITION**.

ABDICATION, *abdicatio*, the act of a magistrate, who gives up, or divests himself of an office. It differs from resignation, as this last is done in favour of some other person: whereas abdication is done without any such view. See **RESIGNATION**.

ABDICATION is also used, by civilians, for a father's discharging his son. This, called likewise *a familia alienatio*, was different from exheredation, or disinheriting,

as being done in the father's life-time; whereas exheredation never took place till his death: so that an abdicated son was actually disinherited, but not *vice versa*. This term, among the Romans, was also used for a citizen's renouncing his liberty, and voluntarily becoming a slave.

ABDOMEN, in anatomy, the lower part of the trunk of the body, reaching from the thorax to the bottom of the pelvis. See the article **THORAX**.

The abdomen is divided, by anatomists, into three anterior regions, *viz.* the epigastric, or upper one; the umbilical, or middle one; and the hypogastric, or lower one: there is also one posterior region, called *regio lumbaris*. See the article **EPIGASTRIC**, &c.

Each of these regions is likewise divided into three parts, a middle and two lateral ones: thus, in the epigastric region, besides the middle part, we have the right and left hypochondrium; in the umbilical region, the *umbilicus* or middle part, and its lateral parts, the *lumbi* or loins; and, lastly, in the hypogastric region, the middle part is called *pubes*, and its two lateral parts the *inguina* or groins. See **HYPOCHONDRIA**, &c.

Within the abdomen, besides the stomach and alimentary duct, there are contained the mesentery, mesocolon, omentum, liver, gall-bladder, spleen, pancreas, mesenteric glands, the lacteal vessels, receptaculum chyli, kidneys, renal glands, ureters, bladder, and the internal parts of generation in both sexes. See **STOMACH**, &c.

The abdomen forms a kind of oblong convexity, like an oval vault, separated from the cavity of the thorax by the diaphragm. It is lined, on the inside, with a strong but soft membrane, called the peritoneum; which surrounds, and contains all the viscera. On the outside, it is guarded by the muscles called obliqui ascendentes and descendentes: together with the rectus transversalis and pyramidalis. See the description of each under its proper article.

The cavity of the abdomen is of an irregularly oval figure, but still symmetrical. On the fore-side, it is uniformly arched or oval, and its greatest capacity is about the navel. On the upper side, it is bounded by a portion of a vault, very much inclined. On the back side, it is in a manner divided into two cavities, by the jutting out of the vertebræ of the loins. On the lower side, it contracts all the way to the edge of the pelvis, and from

from thence expands again a little, as far as the os coccygis, and the tubercles of the illicium; terminating in the void space between these three parts.

It is remarkable of the skin of the abdomen, that it may be naturally increased very much in breadth, without losing any thing considerable of its thickness, as is the case in the natural states of corpulency and pregnancy.

Diseases of the ABDOMEN are chiefly inflammations, abscesses, indurations, inflammations, spasms, &c. See INFLAMMATION, &c.

Wounds of the ABDOMEN. These either affect the common integuments and muscles only, or they likewise penetrate into the abdomen. Now it is easy to examine whether this last be the case, by the eye, by a probe or finger, or by injecting warm water into the wound: if the water meets with no obstruction, the wound certainly penetrates; but if it is thrown back, and the probe cannot enter, you may conclude the wound has not penetrated into the cavity of the abdomen.

Wounds which do not penetrate into the cavity are of two sorts; for either the common integuments only are hurt, or the muscles also of the abdomen are divided, as far as the peritoneum. Wounds of the first kind are easily cured, but those of the latter class are extremely dangerous, because the intestines are apt to fall through the wound. Hence the future becomes necessary to keep the gaping lips of the wound together; after which the wound is to be dressed with vulnerary balsams, and a sticking plaster: rest and abstinence must likewise be enjoined the patient, and his bowels kept open by an emollient clyster.

If the wound be found to penetrate, the surgeon ought to examine carefully whether any of the intestines be hurt; which he may conclude is not the case, when there is no great degree of weakness, hæmorrhage, pain, fevers, &c; if when the patient is laid on the wounded side, there is no discharge of chyle, gall, excrements, or urine, if milk be injected warm, and return without any alteration of its colour; if the instrument was not very sharp; and, lastly, if there is no vomiting nor discharge of blood by the mouth, stool, or urine, nor any swelling and hardness of the belly.

ABDUCENT, *abducens*, in anatomy, the same with abductor. See ABDUCTOR.

ABDUCTION, in logic, a form of rea-

soning, called by the Greeks *apagoge*; wherein, from a certain or undeniable proposition, we infer the truth of something supposed to be contained in that proposition: thus in this syllogism,

Whatever God has revealed is certainly true:

Now, God has revealed the mysteries of the incarnation and trinity:

Therefore, these mysteries are certainly true.

In arguments of this kind, it is always necessary to prove the minor proposition to be contained in the major, or undeniable one, otherwise the reasoning loses all its force.

ABDUCTION, in surgery, a kind of fracture, wherein the bone being entirely broken near a joint, the two stumps recede considerably from each other. See FRACTURE.

ABDUCTOR, or **ABDUCENT**, in anatomy, a name given to several muscles on account of their serving to withdraw, open, or pull back the parts to which they are fixed. Of this kind are the *abductor auricularis*, or of the little-finger; the *abductor indicis*, or of the fore-finger; the *abductor labiorum*, called also *levator* and *elevator*; the *abductor minimi digiti pedis*, or of the little toe; the *abductor oculi*, or of the eye; the *abductor ossis metacarpi digiti minimi*, or metacarpal abductor; the *abductor pollicis*, or of the thumb, called also *thenar*; the *abductor pollicis longus*, called also *extensor primus pollicis*; and lastly, the *abductor pollicis pedis*, or of the great-toe. See FINGER, THUMB, TOE, &c.

ABECEDARIAN, the same with abcedary. See ABCEADARY.

ABEL-TREE, or **ABELE-TREE**, a name given to the white poplar with large leaves. See the article **POPLAR**.

ABELMOSCH, or **ABELMUSCH**, the name of the egyptian *ketmia*, with perfumed seeds, called by us *musk-seed*. See the articles **KETMIA** and **MUSK-SEED**.

ABELOITES, or **ABELONIANS**, in church-history, a sect of heretics, called also abelians, whose distinguishing doctrine was to marry, and yet live in professed abstinence; a tenet, which, according to some authors, they founded on that text, 1 Cor. vii. 29. *Let them that have wives be as though they had none.*

ABERBROTHOCK, one of the royal boroughs of Scotland, situated in the county of Angus, about forty miles N. of Edinburgh; its W. longitude being 2° 20'. and

and N. latitude $56^{\circ} 30'$.

ABERCONWAY, a town in Wales.

See **CONWAY**.

ABERDEEN, the name of two cities in Scotland, situated on the german ocean, in $1^{\circ} 45'$ W. longitude, and $57^{\circ} 11'$ or $12'$ N. lat. and called the old and new towns; the former of which was a bishop's see, standing on the southern banks of the river Don; and the latter, which is one of the royal boroughs, and a town of considerable trade, on the northern bank of the river Dee; so that, properly speaking, the new town only should be called Aberdeen, and the old town Aberdeen; aber signifying the mouth or conflux of rivers. There is an university in both towns; that in the old one being called the *King's-College*; and the other, in the new town, the *Mar-shal's* or *Earl-Marshal's college*.

ABEREMURDER, *aberemurdrum*, in our old law books, murder proved in a judiciary way. Aberemurder was a crime that could not be atoned for with money, as most others might.

ABERGAVENNY, a town of Monmouthshire, situated fourteen miles west of Monmouth, in $3^{\circ} 12'$ W. longitude and $51^{\circ} 50'$ N. latitude.

ABERRATION, in astronomy, an apparent motion of the fixed stars, occasioned by the progressive motion of light. See the article **LIGHT**.

ABERRATION, in optics, a deviation of the rays of light, when reflected, where-by they are prevented from meeting in the same point. Aberrations are of two kinds, one arising from the figure of the reflecting body, the other from the different refrangibility of the rays themselves: this last is called the *newtonian aberration*, from the name of the discoverer.

ABERYSTWITH, a market town in Wales, situated in $4^{\circ} 15'$ W. longitude, and $52^{\circ} 30'$ N. latitude, about twenty-seven miles N. E. of Cardigan.

ABESTA, in persian antiquity, one of the sacred books of the magi, attributed to their founder Zoroaster. It is a commentary on two others, called *zend* and *fazend*. See the article **ZEND**.

ABETTOR, or **ABBETTOR**, in law, the person who promotes or procures a crime to be committed: thus, an abettor of murder is one who commands or counsels another to commit it. An abettor, according as he is present or absent at the time of committing the fact, is punishable

as a principal or accessory. See the article **ACCESSARY**.

An abettor is the same with one who is deemed *art and part*, by the law of Scotland. See **ART** and **PART**.

ABEX, the name of a large tract of land lying along the western coast of the Red-Sea: it is subject to the Turks.

ABEYANCE, **ABEIANCE**, or **ABBAY-ANCE**, in law, the expectancy of an estate or possession: thus, when a parson dies, the fee of the glebe belonging to his church is said to be in abeyance during the time the parsonage is void. It is a fixt principle of law, that the fee-simple of all lands is in somebody, or else in abeyance.

ABIB, in the hebrew chronology, the first month of their ecclesiastical year. It was afterwards called *nisan*, and answered to our March.

ABIES, the **FIR-TREE**, in botany, a species of the pine-tree, the specific characters of which are, that the leaves are single, and not placed in pairs as in the pine. See plate I. fig. 4. and the article **PINE**.

The tops and leaves of the fir-tree, are recommended to be taken in diet-drinks for the scurvy. Rosin, tar, common pitch, burgundy pitch, strasburg turpentine, canada balsam, &c. are productions of fir; for the description and uses of all which, see **ROSIN**, **TAR**, &c.

ABIGEAT, *abigeatus*, in the civil law, the crime of stealing or driving off cattle in droves, otherwise called *abactus*.

It was more severely punished than simple theft, *viz.* by a condemnation to the mines, banishment, or even death itself.

ABIGEAT was also used among antient physicians, in the same sense with *abactus*, for a miscarriage or abortion effected by art. See **ABORTION**.

ABIGEUS, in the civil law, one who is guilty of the crime abigeat. See the article **ABIGEAT**.

ABILITY, in a law sense, is the power of doing certain actions, principally in regard to the acquisition or transferring of property. Every person is supposed to have this power, whom the law does not disable. See the article **NON-ABILITY**.

ABINGTON, a town of Berkshire, situated on the river Thames about fifty-five miles W. of London, and five miles south of Oxford. It gives the title of earl

earl to the noble family of Bertie.

AB-INTESTATE, *ab intestato*, in the civil law. See **INTESTATE**.

ABISHERING, in our old law books, charters, &c. a liberty or freedom from all americiaments: also a right to the forfeitures of others.

ABJURATION, in law, is used for renouncing, disclaiming, and denying the pretender to have any manner of right to the throne of these kingdoms: and that upon oath, which is required to be taken upon divers pains and penalties by many statutes, particularly 1 W. and M. 13 W. III. 1 Anne. 1 Geo. I.

ABJURATION, in our antient customs, an oath taken by a person guilty of felony, and who had fled to a place of sanctuary, to leave the world for ever. This is much the same with what in Scotland is called *signing an act of banishment*.

ABJURATION of heresy, the solemn recantation of some doctrine, as wicked and false.

ABLACTATION, *ablastatio*, the weaning a child from the breast. As nature has taken care to provide an aliment suitable to the stomachs of new-born infants, so it has pointed out directions when to change it for a diet that is more solid and difficult of digestion. See the article **INFANT**.

Exercise and motion are the grand promoters of digestion. Whilst therefore an infant is incapable of sufficient exercise and motion to digest solid food, a thin fluid is provided for his sustenance, which is almost converted into nourishment before it is taken into his stomach; and lest the nurse should give him improper aliment, providence seems to have secured his tender stomach, in some degree, from the mischiefs of indigestion, by denying the infant the use of teeth for the first months. See the articles **DIGESTION** and **MILK**. Hence it will appear, that a child ought not to be weaned till nature points out the proper time, by giving him teeth, and making him capable of taking exercise sufficient to comminute, and afterwards to digest, an aliment more solid and more difficult to dissolve than the milk of its mother or nurse. But because an infant is furnished by degrees with the instruments of mastication, and the power of using exercise, the transition from milk to solid food should not be sudden.

It is not possible to lay down rules for weaning of children adapted to every case that may occur; regard is to be had to

the strength and health of the mother or nurse, as well as of the child. Upon the whole, the method which nature seems to point out should be pursued, unless some circumstances interfere, which make it impracticable.

ABLACTATION, among the antient gardeners, the same with what is now called *grafting by approach*. See the article **GRAFTING**.

ABLAI, a country of Great-Tartary, the inhabitants of which, called Buchars or Buchares, are subject to Russia, but that only for protection. It lies eastward of the river Irtis, and extends five hundred leagues along the southern frontiers of Siberia.

ABLAQUEATION, in the agriculture of the antients, an operation called *bar-ing of trees* by our gardeners. See the article **BARING**.

ABLATIVE, *ablativus*, in latin grammar, the name of the sixth case, which is peculiar to that language. See the article **CASE**.

The ablative is opposed to the dative; the latter expressing the action of giving, and the former that of taking away: thus, *ablatus est à me*, it was taken from me. It is sometimes called the comparative case, as being much used in comparing things together: thus, *dulciorem*, sweeter than honey.

Ablative absolute, among latin grammarians, is much the same with what in english is called a parenthesis, as, *juvante Deo*, with God's assistance. It is called absolute, because governed by no other word.

ABLECTI, in roman antiquity, a select body of soldiers, chosen from among those called *extraordinarii*. See **EXTRAORDINARII**.

ABLEGMINA, in roman antiquity, choice parts of the entrails of victims, called also *proscia*, *porricia*, *prosceta*, and *proscimina*. The ablegmina, were sprinkled with flour, and burnt on the altar: the priests pouring some wine on them.

ABLUENTS, in medicine, diluting medicines, or such as dissolve and carry off acrimonious and stimulating salts, in any part of the body, especially the stomach and intestines.

ABLUTION, in a general sense, signifies the washing or purifying something with water.

Ablution, in a religious sense, signifies a ceremony in use among the antients, and

still practised by the Mahometans: it consisted in washing the body, which was always done before sacrificing, or even entering their temples. This custom was probably derived from the Jews; since we read in scripture, that Solomon placed at the entry of the temple, which he erected to the true God, a great Laver which the text calls a Brazen sea, where the priests washed themselves before they offered sacrifice, having before-hand sanctified the water, by throwing into it the ashes of a victim that was slain in sacrifice.

Ablution, in the church of Rome, was a small quantity of wine and water, which the communicants formerly took to wash down, and promote the digestion of the host. They still use this term for the water, with which the priest washes his hands after consecrating the host.

ABLUTION, among chemists and apothecaries, is used for washing away the superabundant salts of any body; an operation otherwise called edulcoration. See EDULCORATION.

ABLUTION, among physicians, is used either for washing the external parts of the body by baths; or deterging the bowels by thin diluting fluids, as water-gruel, whey, &c. Frequent ablutions with warm water are said to dispose the body to putrid diseases, by relaxing its fibres; which is thought to be one reason, why the plague is so frequent in the turkish dominions; the Mahometan religion enjoining constant ablutions.

ABO, a city of Sweden, and capital of the province of Finland: it is situated in E. longitude $21^{\circ} 30'$. and N. latitude $60^{\circ} 30'$. at the mouth of the river Aurojoki, on the Bothnic gulph, about two hundred and forty miles N. E. of Stockholm.

ABOLISHING, the same with abolition. See the next article.

ABOLITION, in a general sense, is used for destroying, or utterly eradicating something.

ABOLITION, in law, denotes the repealing any law or statute, and prohibiting some custom, ceremony, &c. Sometimes also it signifies leave granted by the king, or a judge, to a criminal accuser to forbear any farther prosecution.

Abolition is also used by antient civilians and lawyers, for desisting from, or annulling, a legal prosecution; for remitting the punishment of a crime; and for cancelling or discharging a public debt.

ABQLLA, a military garment, worn by

the greek and roman soldiers: it was lined, or doubled, for warmness.

ABOMASUS, ABOMASUM, or ABOMASIUS, in comparative anatomy, names used for the fourth stomach of ruminating beasts, or such as chew the cud. These have four stomachs, the first of which is called *venter*; the second, *reticulum*; the third, *omasus*; and the fourth, *abomasus*.

It is in the abomasus of calves and lambs that the runnet is found, used for curdling milk. See MILK and RUNNET.

ABORIGENES, in geography, a name given to the original or first inhabitants of any country; but more particularly used for the antient inhabitants of Latium, when Æneas with his Trojans came into Italy.

ABORTION, in medicine, an untimely or premature birth of a foetus, otherwise called a miscarriage; but if this happen before the second month of pregnancy, it is only called a false conception.

Abortion, which is always a dangerous and but too often a fatal accident, may be owing to a multiplicity of causes; but the most frequent ones are immoderate fluxes of any kind, violent passions of the mind, stimulating medicines, strong purges or vomits, sudden commotions of the body, as running, leaping, falls, blows, &c. to which we may add a too frequent use of venery, copious bleeding in the foot, a debility or laxity of the womb, and a plethoric habit of body: this last is often the cause of abortion in young women, pregnant of their first child.

In order, therefore, to prevent abortion, the above causes must be carefully guarded against. It is likewise conducive to the same end, to bleed at proper times; as also to use strengthening and attenuating medicines: such are nitrous powders, dragon's blood, armenian bole, blood-stone, plantain-water, &c. Astringent plasters are also ordered by Sydenham, to be applied to the region of the loins. However, it ought to be carefully attended to, not to give any thing restraining either internally or externally, when the abortion is become unavoidable. The signs of an approaching or threatened abortion, are, a sudden flaccidity of the breasts, a constriction or subsiding of the belly, a pain in the head and eyes, grinding pains in the stomach, coldness of the extremities, faintings, shiverings, &c.

As to the immediate forerunners of an abortion, they are these, violent pains in the loins and hips, a dilatation of the orifice of the womb, the formation of waters, an eruption of the same, a discharge of pure blood, or blood mixed with the waters.

When these symptoms appear, immediate delivery becomes absolutely necessary, without waiting for strong pains, which seldom return after the flooding is grown so excessive. This is performed in the same manner as for a timely birth, for which see DELIVERY and BIRTH.

Women subject to miscarriages must be very careful to avoid the usual causes of them, *viz.* all violent exercises, speaking loud, strong perfumes, disagreeable smells, and above all the embraces of their husbands: and upon the first appearance of an approaching abortion, they ought to confine themselves to their beds, till the symptoms either disappear, or till it becomes necessary to forward the delivery. Opiates mixed with restringents are greatly recommended for preventing an increase of the symptoms, and the bad consequences thereof, as they take off the stimulation, and thereby remove one great cause of the hæmorrhage so much to be dreaded. The following form is prescribed by Boerhaave: Take blood-stone powdered, armenian bole, and dragon's blood, of each a dram; also syrup of myrtle, an ounce; solid laudanum, three grains; and plantain-water, six ounces: mix all together, and let the patient take half an ounce of it every quarter of an hour.

ABORTION is also used for a foetus, which, dying in the womb, continues there beyond the usual time of gestation.

ABORTION, among gardeners, signifies such fruits as are produced too early, and never arrive at maturity.

ABORTIVE, in a general sense, a term used for any thing which comes before its due time, or a design which miscarries.

ABORTIVE is, more particularly, used for any thing relating to an abortion, in which sense we say, *an abortive flux, abortive velom, &c.* See the articles FLUX and VELOM.

ABRA, a silver coin of Poland, nearly equivalent to the english shilling. See the article COIN.

The abra is current through all the dominions of the grand signior, where it passes for a fourth part of the dutch dol-

lar, called asiani in the Levant.

ABRACADABRA, a spell or charm, worn about the neck as an amulet against several diseases, particularly the ague. See AMULET, CHARM, &c.

However, in order to give it the more virtue, it was to be written as many times as the word contains letters, omitting always the last letter of the former; thus,

ABRACADABRA

ABRACADABR

ABRACADAB

ABRACADA

ABRACAD

ABRACA

ABRAC

ABRA

ABR

AB

A

The whole makes a kind of inverted cone, which has this property, that beginning at the apex, and ascending from the last to the right, the letters always form the same word. According to Julius Africanus, the pronouncing the word in the same manner, will do as well.

ABRAHAMIANs, or **ABRAHAMITES**, in church history, heretics who renewed the errors of the Paulicians; a sect, who, to the doctrines of the Manichees, added an abhorrence of the cross, which they are said to have employed in most servile offices, out of mere despoite.

This name is also used for another sect, who suffered death for the worship of images.

ABRASION, in medicine, the corroding or wearing of the intestines, by sharp and acrimonious humours, or medicines. To remedy this evil, emollient and obdunding medicines are recommended. See the article EMOLLIENTs.

ABRAXAS, a term sometimes used as synonymous with abracadabra. See the article ABRACADABRA.

ABRAXAS, in church-history, a mystical term expressing the supreme God, under whom the Basilidians supposed 365 dependent deities. It was the principle of the gnostic hierarchy, whence sprang their multitude of *Æons*. From abraxas proceeded the primigenial mind; from the primigenial mind, the logos, or word; from the logos, the phronesis, or prudence; from phronesis, sophia and dynamis, or wisdom and strength; from these two proceeded principalities, powers, and

angels; from these other angels, to the number of 365, who were supposed to have the government of so many celestial orbs committed to their care.

ABRAXAS, among antiquaries, an antique gem or stone, with the word *abraxas* engraved on it. There are a great many kinds of them, of various figures and sizes, mostly as old as the third century.

ABRENUNCIATION, a term of the same import with renunciation. See the article **RENUNCIATION**.

ABRIDGING, the shortening, epitomizing, or contracting any book, matter, or thing.

ABRIDGING, in algebra, is the reducing a compound equation to a more simple form. See the article **EQUATION**.

To prevent the mind's being distracted with attending to known quantities, concerning which nothing further is required; and to keep the attention entire for the rest; mathematicians use to abridge their equations, by expressing all the known quantities of the same term, by a single letter.--For an instance: to abridge the equation

$$\begin{array}{r} x^3 - axx + abx - abc = 0 \\ -b \quad +ac \\ -c \quad +bc \end{array}$$

All the known quantities— $a-b-c$ of the second term are supposed equal to one single letter— n : all the known quantities— $ab+ac+bc$ of the third term, equal to another letter— p : and all the known quantities— abc of the fourth term to a single letter— q . By which means we have $x^3-nxx+q=0$, instead of the equation proposed.

ABRIDGMENT, in literary history, signifies much the same with an epitome, or abstract of a large work. See **EPITOME**. The perfection of an abridgment consists in taking only what is material and substantial, and rejecting all superfluities, whether of sentiment or style: in which light, abridgments must be allowed to be useful performances. Abridgments are a very numerous kind of books: we have abridgments of the common law, of the statutes, of the philosophical transactions, of Locke on the human understanding, &c.

ABRIDGMENT, in law, the shortening a count, or declaration: thus, in assize, a man is said to abridge his plaint, and a woman her demand in action of dower, if any land is put therein, which is not

in the tenure of the defendant; for on a plea of non-tenure, in abatement of the writ, the plaintiff may leave out those lands, and pray that the tenant may answer to the remainder. The reason is, that these writs run in general, and therefore shall be good for the rest.

ABROCHMENT, or **ABBROCHMENT**, *abroachmentum*, in our old law-books, the same with forestalling. See the article **FORESTALLING**.

ABROGATION, *abrogation*, signifies the totally repealing and abolishing a law, in which sense it differs from derogation, obrogation, &c. See **DEROGATION**, &c. There may be a great many reasons for abrogating a law, as the inconvenience and bad consequences arising from it, an alteration of circumstances, a change in the face of affairs, &c. which may make the repealing it absolutely necessary.

ABROTANUM, **SOUTHERN-WOOD**, in botany. See **SOUTHERN-WOOD**.

ABRUPTION, in surgery, the same with abduction. See **ABDUCTION**.

ABRUZZO, in geography, the name of two provinces of the K. of Naples, both lying on the gulph of Venice, and called the farther and nearer Abruzzo in regard to the city of Naples. The farther Abruzzo, is bounded on the west by the pope's territories, and separated from the nearer Abruzzo by the river of Pescara.

ABSCCESS, in medicine and surgery, an inflammatory tumour, containing purulent matter, pent up in a fleshy part.

Abscess is synonymous with apostem, imposthume, and imposthumation; and is always the effect of an inflammation, which frequently may be discussed without coming to a suppuration, or before an abscess is formed. See the articles **INFLAMMATION**, and **TUMOUR**.

When the tumour of an inflammation increases, together with the pain, heat, and pulsation depending thereon, and these symptoms continue three days, all applications, tending to resolve the tumour, are to be left off; instead of which the surgeon ought to forward the suppuration, by applying emollient and maturing medicines to the part affected. Fats, oils, and glutinous substances answer this purpose, by obstructing the pores of the skin. There are also a variety of herbs, fruits, seeds, roots, gums, and meals, which, if made into pulvices, answer the same end. The most noted of these are galbanum, sagapenum, ammoniacum,



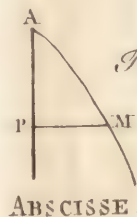
Fig. 1. ABSINTHIUM, or WORMWOOD.



Fig. 2. ABUTILON.



Fig. 3. ACACIA.



niacum, bdellium, opopanax, among the gums : these must be dissolved in yolks of eggs, and some yeast added. Marsh-mallows, lint-seed, scœnugreek-seed, figs, onions, &c. made in a pulvise, with butter, yeast, and honey, and often applied to the part hot, are accounted excellent for ripening abscesses, which is known to be the case, by the softness and whiteness of the tumours. See the article SUPPURATION.

When the abscess is well digested, it should be opened with a scalpel in the softest and most dependent part, that the matter may have the freer exit. If the abscess be large, the scalpel is not to be taken out immediately, but the incision farther enlarged. Thus, the putrid matter is to be let out, and, when glutinous, gently pressed forth with the hands. In making the incision, great care must be taken not to cut the large blood vessels, nerves, and tendons. As to the rest of the cure, it consists in thoroughly cleansing, and then healing the ulcer, with mundificative and balsamic medicines. See the article ULCER.

ABSCISS, in farriery, is a purulent tumour incident to several animals, as horses, sheep, poultry, &c.

In horses, a cataplasm, or pulvise, of lime, reduced to a fine powder, and mixt with wine and oil in equal quantities, ought to be applied to the part affected ; or one of wheat-flower, steeped in vinegar, with half an ounce of manna, may be used in its stead.

In sheep, the way is to open the tumour, in what part soever it is found, and after letting out the matter, to pour into the wound some melted pitch, and burnt salt powdered.

In poultry, they open the abscess with a pair of scissars, pressing out the corruption with their fingers ; and then give them lettuce chopped small, and mixed with bran steeped in water, and sweetened with honey, to eat.

ABSCISSE, *abscissa*, in conic sections, the part A P, (see plate II. fig. 4) of the diameter of a curve line, intercepted between the vertex A of that diameter, and the point P. where any ordinate or semi-ordinate, M P, to that diameter, falls: From this definition it is evident, that there are an infinite number of variable abscisses in the same curve, as well as an infinite number of ordinates.

In the parabola, one ordinate has but one abscisse ; in an ellipsis, it has two ; in an

hyperbola, consisting of two parts, it has also two ; and in curves of the second and third order, it may have three and four.

ABSCISSION, *abscisso*, in rhetoric, a figure of speech, whereby the speaker stops short in the middle of his discourse : e. g. one of her age and beauty, to be seen alone, at such an hour, with a man of his character. I need say no more.

ABSCISSION, in surgery, is sometimes used for amputation, but more properly for cutting off some part of the body, when become any wise hurtful : thus we say the abscission of the præpuce, of a lip, &c.

ABSINTHIATED medicines, those impregnated with the virtues of *absinthium*, or worm-wood : thus we say, ablinthiated wine, ablinthiated ale, ablinthiated water, &c. See the next article.

ABSINTHIUM, WORM-WOOD, in botany, a species of artemisia. See the article ARTEMISIA. See also plate II. fig. 1. which represents the flowers and seeds of worm-wood.

Worm-wood is greatly commended for its medicinal virtues : it strengthens the stomach, removes obstructions of the liver and spleen, creates an appetite, and destroys worms. It is also used in other intentions, for which see the article WORM-WOOD.

ABSIS, in astronomy, the same with apsis. See the article APSIS.

ABSOLUTE, in a general sense, denotes something which is unconnected with, or independent on others.

Among metaphysicians, an absolute being is one whose existence depends on no external cause, or that exists by a necessity of its own nature.

ABSOLUTE is also an epithet applied to things which are free from limitations or conditions : thus we say, an absolute decree, absolute promise, &c. See DECREE, PROMISE, &c.

ABSOLUTELY, in a general sense, that quality or manner of acting whereby a person, action, or thing, is denominated absolute.

ABSOLUTELY, among divines, is used for completely, or with full power and effect, independently of any thing else : thus catholics hold, that the priest forgives sins absolutely ; whereas protestant divines do it only declaratively.

ABSOLUTELY, in geometry, signifies, entirely or perfectly : thus, absolutely round is the same as perfectly round.

ABSOLUTION, in a general sense, the

act of forgiving, pardoning, or releasing.

ABSOLUTION, among civilians, is used for a definitive sentence, declaring the accused person innocent, and releasing him from all farther prosecution.

ABSOLUTION, among catholics, a power assumed by the priests to forgive sins absolutely, that is, by virtue of a power inherent in themselves. By stat. 23 Eliz. to procure absolutions from Rome is declared to be high treason.

Protestant divines pretend to no such power, but only declare the scripture terms of pardon.

ABSOLUTION, in the presbyterian church, is chiefly used for a sentence of the church-judicatories, releasing a man from excommunication, and receiving him again into communion.

Absolutio ad cautelam, is a provisional absolution, granted to a person who has appeared from a sentence of excommunication.

ABSOLUTIO a sevis, in the roman chancery, is the taking off a suspension or censure, incurred by some of their clergy.

ABSOLUTISM, in matters of theology, a doctrine charged on the calvinists; whereby God is supposed to act from mere pleasure, in regard to the salvation of mankind. Absolutism is the grand obstacle to an union between the lutherans and calvinists.

ABSORBENTS, in the materia medica, such medicines as have the power of drying up redundant humours, whether applied to ulcers, or taken inwardly.

Testaceous powders, boles, chalk, calcined bones, &c. are esteemed the most powerful absorbents; which are chiefly given in disorders, arising from too great an abundance of acids in the stomach.

It is a necessary precaution, to drink diluting liquors along with absorbents; also to take gentle purges, as well during the use of them, as when they are left off.

ABSORBENT Vessels, in anatomy, a name peculiarly given to the lacteals opening into the intestines, and serving to imbibe the nutritious juice. See the article LACTEAL VESSELS.

The pores diffused over the body are sometimes also called by this name, from their imbibing air, effluvia, &c.

ABSORBENT Vessels is also a name used by some naturalists for the fibres of the roots of plants, which draw nourishment from the surrounding earth. See the article ROOT.

ABSORBING, the swallowing up, sucking up, or imbibing any thing: thus black bodies are said to absorb the rays of light; luxuriant branches, to absorb or waste the nutritious juices, which should feed the fruit of trees, &c.

ABSORPTION, the effects of absorbing. See the article ABSORBING.

Thus we read of absorptions of the earth, when large tracts of land have been swallowed up.

ABSTEMIOUS, an epithet given to persons who use a spare diet, but more especially to those who abstain from wine.

ABSTEMIOUS, *abstemii*, in church-history, a name given to such persons as could not partake of the cup of the eucharist, on account of their natural aversion to wine.

Calvinists allow these to communicate in the species of bread only, touching the cup with their lip; which is deemed a profanation by the lutherans.

ABSTENTUS, among civilians, an heir who is with-held by his tutor from entering upon his inheritance.

Ecclesiastical writers likewise use the word *abstentus* for an excommunicated person.

ABSTERGENTS, in the materia medica, medicines proper for cleansing the body from concretions and other impurities, not to be effected by simple ablutions.

Abstergers are of a saponaceous nature, and therefore very different from mere ablutions, tho' Caillatellus represents them as the same.

ABSTINENCE, *abstinentia*, the abstaining or refraining from certain enjoyments; but more especially, from eating and drinking: thus the Jews were obliged, by the law of Moses, to abstain from their wives on certain occasions; and it has always been a practice, to abstain from a luxuriant diet at stated times, as well out of a religious view, as to confirm and preserve health. See the article FAST.

Abstinence is highly extolled by some physicians, and that justly, when no more is meant by it but a proper regimen: but it must have bad consequences, when indulged without a due regard to the constitution, age, strength, &c. of the person who practises it.

ABSTINENTES, in church-history, a sect of antient heretics, who carried abstinence and mortification to an excessive length.

ABSTRACT idea, among logicians, the idea

idea of some general quality or property considered simply in itself, without any respect to a particular subject: thus, magnitude, equity, &c. are abstract ideas, when we consider them as detached from any particular body or person.

It is generally allowed, that there are no objects in nature corresponding to abstract ideas: nay, some philosophers, and particularly the late lord Bolingbroke, dispute the existence of abstract ideas themselves, thinking it impossible for the human mind to form any such. Abstract ideas are the same with those called universal ones, and the manner of forming them, according to modern philosophers, is this: we readily observe a resemblance among some of our particular ideas, and thereby get a general notion applicable to many individuals. Thus, horses are found to resemble each other in shape, voice, and the general configuration of their parts. Now, the idea which takes in this resemblance, excluding what is peculiar to each individual, becomes of course common to this whole family or class of animals, and is therefore called a general, universal, or abstract idea. See ABSTRACTION and IDEA.

ABSTRACT terms or *words*, those made use of to denote abstract ideas. See the article **ABSTRACT idea**.

ABSTRACT is also an epithet given to several other things on account of their purity, or universality: thus, we say abstract numbers, abstract mathematics, &c. See **NUMBER** and **MATHEMATICS**.

ABSTRACT, in matters of literature, a concise but general view, or analysis, of some large work; in which sense, it differs from an abridgment only as being shorter, and its entering less minutely into particulars; and from an extract, as this last is only a particular view of some part or passage of it.

ABSTRACTION, in logic, that operation of the mind whereby it forms abstract ideas. See the article **ABSTRACT**, *supra*.

The faculty of abstraction stands directly opposite to that of compounding. By composition we consider those things together, which, in reality, are not joined together in any one existence. And by abstraction, we consider those things separately and apart, which, in reality, do not exist apart. See **COMPOSITION**. According to the celebrated Mr. Locke, abstraction is performed three ways.

First, when the mind considers any one part of a thing by itself, without attending to the whole, as the arm, leg, &c. of a man's body. Secondly, by considering the mode of a substance, without taking in the idea of the substance itself: thus, geometers consider the properties of lines, or the length of bodies, without attending to their breadth or depth. Thirdly, by generalizing our ideas in the manner mentioned under **ABSTRACT idea**.

This doctrine, however, of abstraction, is denied by Dr. Berkeley, the late bishop of Cloyne, who owns that he can imagine a man with two heads, or the upper part of a man joined to the body of a horse: nay, adds he, I can consider the hand, the eye, the nose, each by itself, abstracted or separate from the rest of the body, but then whatever hand or eye I imagine, it must have some particular shape and colour; likewise the idea of a man that I frame to myself, must be either of a white or a black, or a tawney, a straight or crooked, a tall or a low or a middle sized man. Neither can I, by any effort or thought, conceive an absolutely abstracted idea, of motion for instance, distinct from the body moving, and which is neither swift nor slow, curvilinear, nor rectilinear; and the like may be said of all abstract ideas whatsoever.

ABSTRACTION, in chemistry, the evaporating or drawing off a menstruum from the subject it had been put to dissolve. Some also use the word abstraction, as synonymous with distillation and cohobation.

ABSTRACTITIOUS, or **ABSTRACTIVE**, a term used by some chemists for a spirit drawn from vegetables, without fermentation.

ABSTRUSE, a term denoting something that is difficult, dark, obscure, and not easy to be understood, and accordingly opposed to what is plain and obvious. Thus, metaphysics is an abstruse science, as is the new doctrine of infinite series.

ABSURD, an epithet given to any action, sentiment, &c. which contradicts or runs counter to a manifest truth, or to the received opinions of mankind: thus, it would be absurd to affirm, that twelve inches are not equal to a foot: when applied to actions, absurd is synonymous with ridiculous. See the articles **RIDICULE** and **ABSURDITY**.

There is an argument, called *reductio ad*

ad absurdum; which proves a thing to be true, by shewing the absurdity of the contrary supposition.

ABSURDITY, that error by which any thing may be denominated absurd. See the article **ABSRD**.

The great cause of absurdity, is in speech. As reason consists in the due use of names and words, absurdity consists in the abuse of them. The highest of all our faculties, and our failings, take their rise from the same thing, language; and are as it were well coupled together, to temper each other, and reduce human nature to a kind of mediocrity.

Hobbes assigns absurdity as a privilege peculiar to man, and which no other creature is capable of: he adds, that of all men, those called philosophers, are most exposed to it. Whence the saying of Cicero: there is nothing so absurd but has been said by a philosopher, *nihil tam absurde dici potest, quod non dicatur a philosopho*. The reason seems to be, that of all men they reason, and discourse most. Yet a nearer and more apposite cause may be assigned; viz. their neglect at setting out, to define the terms they make use of, *i. e.* to assign the precise idea each is made to represent: which is much like a man's undertaking to number, without knowing the value of the numeral figures; reasoning, according to the author first cited, being no other than computing. Divers absurdities also arise from the wrong connecting names into propositions; as first, when the names of bodies are applied to accidents; or the names of accidents to bodies: as in that proposition, faith is infused, or inspired; since nothing is either fusible, or inspirable, but body; and the same absurdity the Cartesians fall into, when they make extension to constitute body, &c. Secondly, when the names of accidents inherent in external bodies are attributed to accidents of our own bodies; as when it is said that colour is in the object, sound in the air, &c. Thirdly, when the names of bodies are attributed to words, or conceptions; as is done by those who assert that there are universal things, that animal is a genus, &c. Fourthly, when the names of accidents are given to words, and propositions; as when it is said that the definition is the nature of the thing, or a person's command, is his will. Fifthly, when in lieu of proper words, metaphors and tropes are made use of; as, the way leads to such a

place, the proverb says this or that; which though allowable on ordinary occasions, yet is of mischievous consequence in reasoning and searching after truth. Lastly, when names are taken at random, and used without meaning, as transubstantiation, consubstantiation, entelechia, &c.

He that can avoid these rocks will not easily fall into an absurdity, except in a very long chain of reasoning, when he may be apt to forget some proposition before laid down.

ABSINTHIUM, the same with absinthium. See **ABSINTHIUM**.

ABUCCO, **ABOCCO**, or **ABOCCHI**, a weight used in the kingdom of Pegu, equal to twelve teccalis and a half. Two abuccos make an agiro, or giro; two giri make half a biza, which weighs 100 heccalis, that is to say, 2 pound 5 ounces the heavy weight, or 3 pounds 9 ounces light weight of Venice.

ABUNDANT numbers, those whose parts added together make more than the whole number: thus the parts of 20, make 22, viz. 1, 2, 4, 5, 10.

ABUSE, in a general sense, the perverting something from its true design, purpose, or intention.

ABUSE of words, is the using them without any clear and distinct ideas, or without any idea at all. See **ABSURDITY**.

Self-ABUSE, a phrase sometimes used for the crime of self-pollution. See **POLLUTION**.

ABUTALS, the boundaries of a piece of land.

ABUTILON, in botany, is, according to Linnæus, a species of sida, the flower of which resembles that of the mallow, but the fruit is a kind of head composed of several bivalve capsules: these are affixed to an axis, and usually contain kidney-shaped seeds. See Plate II. fig. 2. and the article **SIDA**.

The abutilon is diuretic and vulnerary; its leaves, applied to ulcers and sores, serve to cleanse them; and its seeds taken inwardly, promote urine, and expel the gravel.

ABYSS, in a general sense, signifies any unfathomable depth, or an immense collection of waters.

ABYSS, more particularly, denotes a vast cavern or hollow receptacle, in the center of the earth, filled with water; the existence of which has been disputed by some, and defended by other naturalists.

To it has been attributed the origin of springs,

springs, the level maintained in the surfaces of different seas, and their not overflowing their banks, &c. But the question, whether there be such an abyss or no, seems yet undetermined. See the articles EARTH and DELUGE.

ABYSS is also used for several other things, as the cavernous bowels of a mountain, or hell, or the bottomless pir, the center of an escutcheon, a gulph, &c.

ABYSS, in antiquity, a name given to the temple of Proserpine.

ABYSS, among alchemists, is used by some for the immediate receptacle of the seminal matter, and by others for the first matter itself.

ABYSS, in a metaphorical sense, is applied to any thing that is inscrutable, or incomprehensible: thus, the judgments of God are called a great abyss.

ABYSSINIA, a large empire of Africa, otherwise called Ethiopia. See the article ETHIOPIA.

ABYSSINIAN church, that established in the empire of Abyssinia: it makes only a branch of the Copts or Jacobites, a sect of heretics who admit only one nature in Jesus Christ.

ACACIA, in botany, a species of mimosa, the flower of which consists of only one infundibuliform leaf, containing a number of stamina: the flowers are usually collected in clusters or little heads. The pistil arises from the bottom of the flower, and at length becomes a flat pod, five or six inches long, and divided into several hollow partitions, containing a number of roundish seeds. See plate II. fig. 3. and the article MIMOSA.

There are a great many varieties of acacia, all which may be propagated with us on hot beds. They belong to the polyandria class of Linnæus, and are cultivated by the Chinese for the sake of their flowers: these they use in dying that beautiful yellow, which we find bears washing in their silks and stuffs.

ACACIA, in the materia medica of the ancients, a gum made from the egyptian acacia-tree, and thought to be the same with our gum-arabic.

ACACIA germanica, an inspissated juice, made of wild floes, hardly ripe. The true acacia is said to be very scarce in the shops, where the german acacia is used in its stead, both being powerful astringents, and consequently good in hæmorrhages, and all kinds of fluxes.

ACACIA, or AKAKIA, in antiquity, a roll or bag represented on the medals of the

greek and roman emperors: some think it is only a handkerchief, which they used as a signal; others take it for a volume, or roll of memorandums or petitions; and finally, others will have it to be a purple bag filled with earth, to remind the prince of his mortality.

ACADEMIC, ACADEMICIAN, or ACADEMIST, a member of a modern academy. See the article ACADEMY.

ACADEMICS is more particularly used for a sect of antient philosophers, who maintained that all things were uncertain, and consequently that men ought to doubt of every thing. They even went so far, as to doubt whether or no they ought to doubt; it being a received maxim among them, *se nil scire, ne hoc quidem, quod nihil sciant*.

Of this sect, Socrates and Plato were the founders. Cicero, who was an academic philosopher himself, gives a more favourable account of them. He tells us, that all the difference between the academics, and those who imagined themselves possessed of the knowledge of things, consisted in this: that the latter were fully persuaded of the truth of their opinions; whereas the former held many things to be only probable, which might very well serve to regulate their conduct, though they could not positively assert the certainty of them. In this, says he, we have greatly the advantage of the dogmatists, as being more disengaged, more unbiassed, and at full liberty to determine as our judgment shall direct. But the generality of mankind, I know not how, are fond of error; and choose rather to defend, with the utmost obstinacy, the opinion they have once embraced, than with candour and impartiality, examine which sentiments are most agreeable to truth. Academ. II. 3.

This passage alone, if there were no other proof, is a sufficient vindication of the academics from the charge of Pyrrhonism. See PYRRHONIANS.

ACADEMY, in grecian antiquity, a large villa in one of the suburbs of Athens, where the sect of philosophers called academics held their assemblies. It took its name from one Academus or Ecademus, a citizen of Athens; as our modern academies take theirs from it. This term was also used metaphorically, to denote the sect of academic philosophers. See the last article.

ACADEMY, in a modern sense, signifies a society of learned men, established for the improve-

improvement of arts or sciences. Some authors confound academy with university; but though much the same in latin, they are very different in english. An university is properly a body composed of graduates in the several faculties; of professors, who teach in the public schools; of regents, or tutors, and students who learn under them, and aspire likewise to degrees. Whereas an academy is not intended to teach or profess any art, such as it is, but improve it: it is not for novices to be instructed in, but for those that are more knowing; for persons of distinguished abilities to confer in, and communicate their lights and discoveries to each other, for their mutual benefit and improvement. See the article UNIVERSITY.

ACADEMIES of antiquity, are those designed for the illustration of whatever regards antiquity, as medals, coins, inscriptions, &c.

There are several academies of this kind in different parts of the world, as at Upsal in Sweden, at Cortona in Tuscany, at Paris, and at London: these two last are called, one the academy of inscriptions and belles lettres, and the other the antiquarian society. See ANTIQUARY.

ACADEMIES of architecture. See ACADEMIES of painting, *infra*.

ACADEMIES of belles lettres, those chiefly designed for the cultivation of eloquence and poetry. Besides the academy of belles lettres at Paris, and one at Caen, there are several in Italy, *viz.* one at Florence, and two at Rome.

Chirurgical ACADEMIES, those established for the improvement of surgery: such is that lately instituted at Paris; the members of which are not only to publish their own and correspondents observations and improvements, but to give an account of all that is published in surgery, and to compose a complete history of this art, by their extracts from all the authors, antient and modern, who have wrote on it. A question in surgery is to be proposed by the academy yearly; and a prize of a gold medal of two hundred livres value to be given him, who furnishes the most satisfactory answer.

Cosmographical ACADEMIES, those which make geography and astronomy the chief objects of their researches: such is that called the *argonauts*, at Venice.

ACADEMIES of dancing. Of this kind there was one instituted by Lewis XIV, with ample privileges,

Ecclesiastical ACADEMIES, those which employ their studies in illustrating the doctrines, discipline, ceremonies, &c. that obtained in each age of the church: such is that of Bologna.

Historical ACADEMIES, those erected for the improvement of history; such are those at Lisbon and Tubingen.

ACADEMY of inscriptions, &c. See ACADEMIES of antiquity, *supra*.

ACADEMIES of languages, those established in many parts of Europe, for refining and ascertaining the language of each country; thus the Paris academy is designed to illustrate and polish the french; that of Madrid, the spanish or castilian, &c. But besides these, there others in Italy, Germany, &c.

ACADEMIES of Law: such are those of Bologna and Beryta.

Medical ACADEMIES, those instituted with a view to promote medical knowledge and improvements: such is that of the *Nature Curiosorum*, in Germany, and those of Venice, Geneva, Palermo, &c. to which some add the colleges of physicians at London and Edinburgh.

Musical ACADEMIES. These are frequent in most parts of Europe, but more especially in France and Italy.

ACADEMIES of painting, sculpture, and architecture. There is one of these at Paris, and another at Rome.

The academy at Paris consisting of the most eminent masters in painting and sculpture, was founded by M. de Noyers, secretary of state to Lewis XIII. This academy at first consisted of about twenty-five persons, *viz.* twelve officers called ancients, eleven private members, and two syndics. But at present it consists of forty painters and sculptors. There are four perpetual rectors nominated by the king, a director, a chancellor, a secretary who keeps the register, and countersigns the dispatches; a treasurer, twelve professors, adjuncts to the rectors and professors, six chancellors, a professor for that part of anatomy which relates to painting, and another for perspective. The academy at Rome was established by Lewis XIV, and here those who have won the annual prize in the academy at Paris, are received and entertained for three years, and have a pension from the king, to give them an opportunity of perfecting themselves. The academy at Paris sends one of their governors for its president.

ACADEMIES of sciences, those chiefly designed



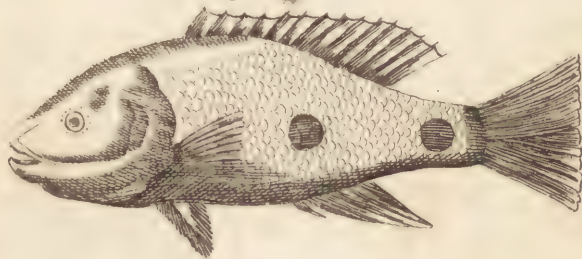
Fig. 1 ACAJOU, the *CASHEW-NUT*.



Fig. 2 ACANTHUS, or *BEAR'S BREECH*.



Fig. 3 ACARA.



signed for the improvement of natural history and mathematics, with their numerous branches, botany, chemistry, mechanics, astronomy, geography, &c. These are the most numerous of all others, but the most noted ones are those at London, Paris, Berlin, Petersburg, Bologna. That of London is called the Royal Society; and indeed with us, Society is the general term for all establishments of this kind, as academy with foreigners. See the article SOCIETY.

ACADEMY is also more particularly used with us for a kind of schools, where youth are instructed in various branches of learning. Of this kind, we have two royal ones, *viz.* one at Portsmouth, for teaching navigation, drawing, &c. which may be called a naval or maritime academy; and another at Woolwich, where youth are taught fortification, gunnery, &c. which may be stiled the military academy. Besides these, there are numerous academies, especially in London, for teaching mathematics, languages, writing, accounts, drawing, and other branches of learning. The dissenters have likewise their academies for teaching philosophy, divinity, &c. which give great umbrage to the sticklers for episcopacy.

ACADEMY is also a name peculiarly given to a riding school, otherwise called the manege. See MANEGE.

ACADEMY Figures, in painting, a draught, or design, made after a model, with a crayon or pencil.

ACADIE, or **ACADY**, in geography, a name formerly given to Nova Scotia, or New Scotland, one of our American colonies. See *New SCOTLAND*.

ACÆNA, in grecian antiquity, a measure of length, containing ten of their feet. See MEASURE and FOOT.

ACAJOU, the **CASHEW-NUT-TREE**, in botany, the name of a species of anacardium. See ANACARDIUM.

The flower of the acajou consists of one funnel-fashioned leaf, divided into many segments at the edges: the pistil, which is surrounded with a number of stamina, finally becomes a soft turbinated fruit, with a kidney-shaped capsule affixed to it, in which is contained a seed of the same shape. See plate III. fig. 1.

The acajou is a native of Brasil, of the fruit of which the Indians make a kind of vinous intoxicating liquor. The kernel of the cashew-nut may be eaten, when roasted, but its husk is extremely

acrimonious. The dyers make use of the oil drawn from it, in dying black.

ACALYPHA, in botany, a genus of the *monoecia polyandria* class of plants; the calyx of the male flowers consists of four small, roundish, concave, and equal petals; there is no corolla; in the female flower the calyx is composed of three leaves, and there is no corolla; the fruit is a roundish, trifurcated, trilocular capsule, with a large, single, roundish seed in each cell.

ACANACEOUS Plants, among botanists, those which are prickly, and bear their flowers and seeds on a kind of heads.

ACANTHA, among botanists, a name given to the prickles of thorny plants.

ACANTHA is also used by zoologists for the spines of certain fishes, as those of the *echinus marinus*, &c.

ACANTHA is also a term used by some anatomists for the protuberances of the back bone, otherwise called *Spina dorsa*. See the article SPINE.

ACANTHABOLUS, in surgery, a kind of forceps, or instrument for pulling out thorns and other sharp-pointed bodies, that may have penetrated the skin: also an instrument for pulling hairs from the eye-brows, &c.

ACANTHACEOUS, among botanists, an epithet given to all the plants of the thistle kind, on account of the prickles with which they are beset. See the article THISTLE.

ACANTHINE, among the antients, something belonging to, or resembling the herb *acanthus*: hence we read of acanthine garments, acanthine woods, &c. The acanthine garments, according to some, were made of the down of thistles, but others will have them to be only embroidered in imitation of the egyptian *acanthus*. They will have the acanthine wood to be the same with brasil-wood.

ACANTHOPTERYGIUS *Fishes*, *Acanthopterygii pisces*, among zoologists, one of the general classes or families of fishes, distinguished by having the rays of their fins bony, and some of them prickly at the extremities.

Under this class are contained seventeen genera, *viz.* The *gasterosteus*, *chætodon*, *zeus*, *cottus*, *trigla*, *scorpæna*, *trachinus*, *perca*, *sciæna*, *sparus*, *labrus*, *mugil*, *scomber*, *xiphius*, *gobius*, *blennius*, and *ophidion*: for the description of all which, see the articles *GASTEROSTEUS*, *CHÆTODON*, *ZEUS*, &c.

ACANTHUS, in botany, a genus of the didynamia

didynamia angiospermia class of plants, the calyx of which is a permanent perianthium: the flower consists of one leaf, the anterior part of which is divided into three segments, and the hinder part forms a kind of ring. The pistil, which rises from the cup, finally becomes an acorn-shaped fruit, containing a number of gibbose-seeds. See plate III. fig. 2. The acanthus may be known when not in flower, by its beautiful leaves, which are so elegant as to be imitated on carvings.

ACANTHUS, in architecture, an ornament representing the leaves of the herb acanthus, and used in the capitals of the corinthian and composite orders. See the article CAPITAL.

For this purpose, the greek sculptors imitated the leaves of the soft acanthus, as the Goths did those of the prickly kind.

ACAPULCO, in geography, a sea-port town of North America, in W. longitude 102°. N. latitude 17° 30'. It is situated in the province of Mexico, on a fine bay of the South-sea, from whence a ship sails annually to Manila in the Philippine islands.

ACARA, in ichthyology, a small brasilian fresh-water fish, seldom exceeding three inches in length. It has a high back like the perch, on which stands a long fin reaching nearly to the tail, and supported by numerous rigid and prickly rays. Its fins are all brown. But what chiefly distinguishes it is a large black spot on the middle of each side, and another near the tail. See plate III. fig. 3.

ACARA-AYA, a brasilian fish of the shape of our carp: it grows to three feet in length, and has two long teeth in the upper jaw, those in the under one being extremely sharp, numerous, and even. Its tail is broad, and but very little forked. Its belly is white, as are the belly-fins, the others being pale red. It is esteemed a delicate fish, and eaten salted as well as fresh. See plate IV. fig. 1.

ACARA-MUCU, the name of a very remarkable small fish, about ten fingers breadth long, and four broad. Its mouth is round, very small, and furnished with triangular teeth. On the ridge of the back, just behind the eyes, there stands a slender pointed horn, of a cylindrical shape, and four fingers breadth long. It is found on the coast of Brasil, has no scales, and is not eatable. See plate IV. fig. 2.

ACARA-PÉBA, a small Brasilian fish, about a foot long, and four or five inches broad. Its mouth is large, but without teeth, and its tail is forked. It has one long back fin, the anterior rays of which are rigid and prickly, but the hinder ones soft and flexible. It seems to be a variety of smaris. See SMARIS.

ACARA-PITAMBA, a beautiful brasilian fish, resembling our mullet, and growing to two feet, or more in length. Its tail terminates in two oblique horns; and along the middle of each side, there runs a broad and beautiful gold-coloured line, from the gills to the tail. Its back, down to this line, is variegated also with spots of the same colour; and the sides under the line, are variegated with short, longitudinal lines, of a somewhat paler colour than that of the broad line. Its belly is white and its fins yellow. See plate IV. fig. 4.

ACARAUNA, a small american fish, called by our sailors the old wife, of which there are several species. They seldom exceed four or five inches in length, and are nearly as broad as long. One has a sharp thorn, or prickle, on each side near the tail; these it draws in or thrusts out at pleasure. Another, which is that called the old wife, has four sharp thorns on each side its upper jaw, and two on each side the under one: from these last, which bend downwards, and in shape resemble a cock's spur, there runs up a row of small thorns to the eye. See plate IV. fig. 3.

ACARNAN, a small sea-fish, common in the Mediterranean, and supposed to be the same species with the rubellio, or erythrinus. See plate V. fig. 1. and the article ERYTHRINUS.

ACARUS, in zoology, a numerous genus of insects, comprehending the lice of several animals, and the mites in general. The body of the acarus is short and roundish; the eyes are two; and the legs eight in number, each consisting of eight joints. The largest or longest legged acarus is described in plate V. fig. 2.

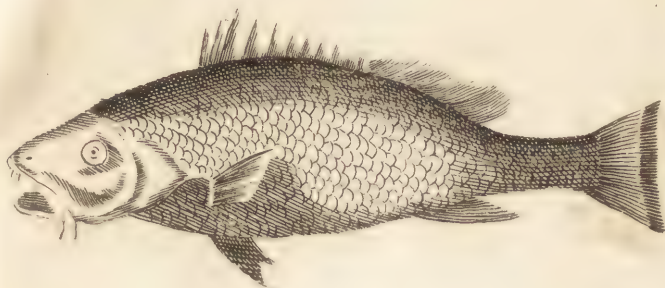
ACATALEPSY, *acatalepsia*, among ancient philosophers, the impossibility of comprehending something.

The distinguishing tenet of the pyrrhonians was, their asserting an absolute acatalepsy in regard to every thing. See the article PYRRHONIANS.

ACATALEPTIC, *Acatalepticos*, in anti-

ent

Fig. 1. ACARA-AYA.



ACARA-MUCU. Fig. 2.



Fig. 3. ACARAUNA.

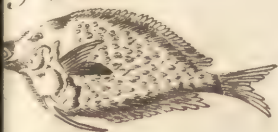


Fig. 4. ACARA-PITAMBA.





ant prosody, an appellation given to such verses as have all their feet complete, in contradistinction to those which want a syllable to make up the last foot.

ACATERY, or **ACCATRY**, an officer of the king's household, designed to be a check between the clerks of the kitchen and the purveyors.

ACATIUM, in antiquity, a kind of boat or pinnacle used in military affairs.

The acatium was a species of the *naves altuarie*. See **ACTUARIE** *naves*.

ACAULOSE, or **ACAULOUS**, among botanists, a term used for such plants as have no *caulis*, or stem. See **CAULIS**.

ACCALIA, in roman antiquity, solemn festivals held in honour of Acca Laurentia, Romulus's nurse: they were otherwise called *Laurentalia*.

ACCAPITARE, in our old law books, the act of becoming a vassal, or paying homage to some lord. Hence,

ACCAPITUM, signified the money paid by a vassal, upon such an occasion.

It is likewise used for the relief due to the chief lord. See **RELIEF**.

ACCEDAS ad curiam, in law, a writ lying where a man hath received, or fears false judgment in a hundred-court, or court-baron. It is issued out of the Chancery, and directed to the sheriff, but returnable in the King's-bench or Common-pleas. It lies also for justice delayed, and is said to be a species of the writ *Recordars*. See **RECORDARE**.

ACCELERATED MOTION, in mechanics, is a motion which receives continual increments, or accessions of velocity. See the article **MOTION**.

The accelerated motion of falling bodies is produced by the impulse of gravity, which keeps continually acting upon them, and thereby communicating a new augmentation of motion every instant. If this increase be equal in equal times, the motion is said to be uniformly accelerated. See **ACCELERATION**.

ACCELERATED MOTION of bodies on inclined planes. See **INCLINED PLANE**.

ACCELERATED MOTION of projectiles. See the article **PROJECTILES**.

ACCELERATING FORCE, being a sort of centripetal force, is expressed by that velocity, generated in a given time, with which bodies (considered as physical points) move towards the central body attracting them by its absolute force. This accelerating force is greater or less, according to the distance of the center of the force, in a reciprocal duplicate proportion,

Thus is the gravity, that makes bodies tend towards the center of the earth, greater in vallies than on the tops of high mountains; greater at the poles than at the equator, which is seventeen miles higher; and greater at the equator than at greater distances from the center of the earth; for the same body, which, near the surface of the earth, falls sixteen feet in the first second of its fall, would fall but four in the same time, if it began at the height of four thousand miles from the surface of the earth, or two semi-diameters distance from its center. At equal distances the accelerating force is the same every where, because all-bodies, large or small, heavier or lighter, abstracting from the resistance of the air, are equally accelerated in their fall. See the articles **FORCE**, **CENTRIPETAL FORCE**, **MOTION**, **GRAVITATION**, **ACCELERATION**, and **DESCENT**.

ACCELERATION, in mechanics, denotes the augmentation or increase of motion in accelerated bodies. See the last article.

The term acceleration is chiefly used in speaking of falling bodies, or the tendency of heavy bodies towards the center of the earth produced by the power of gravity; which, acting constantly and uniformly upon them, they must necessarily acquire, every instant, a new increase of motion.

Thus, in the rectangle **A B E D C F**, (plate V. fig. 3.) if **1 a** represent the velocity acquired, whilst a body falls thro' **A 1**, suppose one minute; than **2 b** will express the velocity acquired in two minutes represented by **A 2**; **3 c** the velocity acquired in three minutes, or **A 3**. and **B C** the velocity acquired, whilst the body falls through **A B**.

Now the triangles **A 1 a**, **A 2 b**, **A 3 c**, and **A B C** represent the spaces described by the falling body in the respective times **A 1**, **A 2**, **A 3**, and **A B**, by reason of the uniform action of gravity; but these triangles being similar, are to each other as the squares of their homologous sides, **A 1**, **A 2**, **A 3**, **A B**; that is, the spaces are to each other as the squares of the times in which they are described.

Hence also follows the great law of acceleration, viz. that a falling body, uniformly accelerated, describes, in the whole time of its descent, just one half of the space it would have described in the same time, with the motion it has acquired at the end of its fall.

From what has been said, it is evident, that the spaces described by a falling body in a series of equal portions of time, will be as the odd numbers 1, 3, 5, 7, &c. See the figure above referred to, where the space described in the time A 1 is represented by the triangle A 1 a; whereas the space described in the second portion of time, contains three such triangles; that described in the third portion, five such triangles, and so on.

Again, that the spaces described by falling bodies in different times, are as the squares of the velocity acquired at the end of their fall.

As the spaces represented by the odd numbers 1, 3, 5, 7, &c. still approach nearer and nearer to an equality, so the accelerated motion likewise approaches nearer and nearer to an uniform motion; and if the body moves in a resisting medium, the motion will actually become uniform, at a certain distance.

ACCELERATION of the motion of pendulums. See the article **PENDULUM**.

ACCELERATION is also a term used in the writings of antient astronomers, where it signifies the difference between the revolution of the primum mobile, and that of the sun, computed to be three minutes and fifty-six seconds.

ACCELERATOR, in anatomy, the name of two muscles of the penis, so called from their expediting the urine and semen.

They likewise assist the ereciores in the erection of the penis, by driving the blood contained in the cavernous body of the urethra towards the glans, which is thereby distended; the tumefaction of these muscles at the same time compressing the veins that carry off the reflux blood from the corpus cavernosum.

ACCENDENTES, or **ACCENSORES**, in the church of Rome, a lower rank of ministers, whose business it is to light, snuff, and trim the candles and tapers.

ACCENDONES, or **ACCEDONES**, in roman antiquity, a kind of officers in the gladiatorian schools, who excited and animated the combatants during the engagement.

ACCENSI, in Roman antiquity, certain supernumerary soldiers, designed to supply the place of those who should be killed, or anywise disabled.

Accensi also denoted a kind of inferior officers, appointed to attend the roman magistrates,

ACCENSION, *accensio*, the act of kindling, or setting any body on fire. Thus

the accension of tinder is effected by striking fire with flint and steel: and what is more surprising, because less common, the accension of two cold liquors may be effected by only mixing them together.

ACCENT, in a general sense, denotes a certain tone or manner of speaking, peculiar to some nation, country, or province: thus we say, the scotch accent, the irish accent, &c.

ACCENT, among grammarians, is the raising or lowering of the voice in pronouncing certain syllables of words.

We have three kinds of accents, *viz.* the acute, the grave, and circumflex. The acute accent, marked thus ('), shews that the voice is to be raised in pronouncing the syllables over which it is placed. The grave accent is marked thus (`), and points out when the voice ought to be lowered. The circumflex accent is compounded of the other two and marked thus (~ or ^): it denotes a quavering of the voice, between high and low. Some call the long and short quantities of syllables, accents; but erroneously. See the article **QUANTITY**.

Accents not only give a pleasing variety and beauty to the modulation of the voice, but serve to ascertain the true meaning of the word, as in *présent* and *présent*.

The Chinese are extremely remarkable for the use they make of accents: thus the word *ya*, according to the place on which they place the accent, signifies God, a wall, an elephant, stupidity, and a goose.

The hebrew likewise abounds with accents; there being no less than twenty-five tonic accents, shewing the proper tone of the syllables over or below which they are placed; besides four euphonic ones, serving to render the pronunciation more sweet and agreeable. However, it is generally allowed, that the accents now in use were unknown to the antient Hebrews.

Concerning the antiquity of the greek accents, authors are not agreed; some making them of modern date, and others contending for their having been known to the antient Greeks.

ACCENT is also used for a certain intonation or modulation of the voice, to give the stronger, or even contrary signification to the speaker's words: Thus, we say, an angry or disdainful accent; by the use of which, it is easy to give an ill meaning to the softest expressions.

In this sense we are to understand lord Bacon,

Bacon, where he observes, that there are accents of sentences as well as of words: complaining that the former has been utterly neglected, whilst grammarians have bestowed a great deal of idle pains upon the latter. See EMPHASIS.

ACCENT, in music, a certain modulation or warbling of the sounds, to express passions, either naturally by the voice, or artificially by instruments.

Every bar or measure is divided into the accented and unaccented parts; the former being the principal, on which the spirit of the music depends.

The harmony ought always to be full, and void of discords, in the accented part of the measure.

ACCENT, in poetry, the same with what is otherwise called *ress*. See REST.

ACCENTOR, in music, denotes one of the three fingers in parts, or the person who sings the predominant part in a trio. See the article TRIO.

ACCEPTANCE, in common law, the tacitly agreeing to some act before done by another, which might have been defeated without such acceptance. Thus if a husband and wife, seized of land in right of the wife, make a joint lease or feoffment, reserving rent, and the husband dies; after which the widow receives or accepts the rent: such receipt is deemed an acceptance, confirms the lease of feoffment, and bars her from bringing the writ *cui in vita*.

ACCEPTANCE, among civilians, denotes the consenting to receive something offered to us, which by our refusal could not have taken effect; or acceptance is the actual concurrence of the will of the donee, without which the donor is at liberty to revoke his gift at pleasure.

ACCEPTANCE, in the church of Rome, is particularly used for the receiving the Pope's constitutions.

The acceptance of the constitution *unigenitus*, has occasioned, and still continues to excite a world of confusion in the popish countries, but more especially in France, where many of the clergy refuse to accept it.

ACCEPTANCE, among merchants, is the signing or subscribing a bill of exchange, by which the acceptor obliges himself to pay the contents of the bill. See the article BILLS of Exchange.

Bills payable at sight are not accepted, because they must either be paid on being presented, or else protested for want of payment.

The acceptance of bills payable at a fixed

day, at usance or double usance, &c. need not be dated: because the time is reckoned from the date of the bill; but it is necessary to date the acceptance of bills payable at a certain number of days after sight, because the time does not begin to run till the next day after that acceptance: This kind of acceptance is made thus, *Accepted such a day and year*; and signed.

In general, he to whom a bill of exchange is made payable ought to demand the acceptance of the person on whom it is drawn, and that in the full extent of the terms of the bill, and on refusal of acceptance to return it with protest. This he ought to do for his own security, as well as for that of the drawer. Thus, if the bearer of a bill consents to an acceptance at twenty days sight, instead of eight days expressed in the bill, he runs the risk of the twelve days prolongation; so that he can have no recourse against the drawer, should the acceptor break in that time. Again, if a bill be drawn for three thousand pounds, and the bearer agrees to take an acceptance for two only, and should receive no more than that sum, the remaining thousand would be at the hazard of the bearer, as well as in the former case.

If, therefore, a bill be only accepted in part, or for a longer time than that expressed in it, the bearer ought to protest it, at least for the sum not accepted.

Again, if the acceptor breaks or refuses to make payment when the bill becomes due, it is necessary to get the bill immediately protested by a public notary, to be sent along with the protest, to the remitter, to procure satisfaction from the drawer.

By statute, inland-bills of exchange must be accepted by signing or endorsing in writing, and protested for refusal of such acceptance, otherwise the drawer is not liable to costs; it must likewise be returned to the drawer within fourteen days. However, such protest is not necessary unless the value be acknowledged in the bill to be received, and unless the bill be drawn for 20*l.* or upwards.

A bill drawn on two jointly must have a joint acceptance, otherwise be protested; but if on two or either of them, the acceptance of one is sufficient.

ACCEPTATION, in grammar, denotes the meaning or sense wherein a word is generally taken. Thus we say, such a word has several acceptations.

ACCEPTATION, in law, the same with accept-

acceptance. See ACCEPTANCE.

ACCEPTER, or **ACCEPTOR**, of a bill of Exchange, the person who accepts it. See the article ACCEPTANCE.

The acceptor is obliged to pay the contents of the bill, even though the drawer should fail before it becomes due.

ACCEPTILATION, among civilians, signifies an acquittance given by a creditor to a debtor, without receiving any money.

ACCEPTION, the same with acceptation. See the article ACCEPTATION.

ACCESS, in a general sense, denotes the approach of one thing towards another ; but it is more proper to say, the approach of bodies, the appulse of the planets, &c.

ACCESS, in a more limited sense, is used for permission or leave to come near any person, place, or thing : thus we say, it is difficult to get access to such a person, or place.

ACCESS, among physicians, is used for the beginning of a paroxysm or fit of some periodical disease : thus we say, an access of a fit of the ague, an intermitting fever, the gout, &c. See the article PAROXYSM.

ACCESSARY, or **ACCESSORY**, in law, a person who is in any wise aiding in the commission of some felonious action.

By statute, he who counsels, abets, or conceals the committing of such an action, or the person who has committed it, is deemed an accessary. There are two kinds of accessaries, *viz.* before the fact, and after it. The first is he who commands and procures another to commit felony, but is absent when it is done : for if he be present, he is a principal. The accessary after the fact is one who receives, comforts, or assists the felon ; knowing him to be such.

In the highest crimes, as high treason, &c. and the lowest, as riots, forcible entries, &c. there are no accessaries, but all concerned are principals. It is a maxim among lawyers, that where there is no principal, there can be no accessary ; so that it is necessary the principal be first convicted, before the accessaries can be arraigned. However, if the principal cannot be taken, the accessary may be prosecuted for a misdemeanor, and punished by fine, imprisonment, &c.

Accessaries in petty treason, murder, and felony, are not allowed their clergy. See *Benefit of CLERGY*.

A wife may assist her husband, without being deemed accessary to his crime ; but not *contra*. A servant assisting his

master to escape, is reckoned an accessary ; also furnishing others with weapons, or lending them money, &c. will make persons accessaries. Persons buying or receiving stolen goods, knowing them to be such, are deemed accessaries to the felony. Also if the owner of stolen goods, after complaint made to a justice, take back his goods, and consent to the escape of the felon, he becomes accessary after the fact.

ACCESSIBLE, something that may be come at, or approached to : thus, we say, such a place is only accessible on one side, &c.

For the geometrical admeasurement of accessible heights and distances. See the articles HEIGHT and DISTANCE.

ACCESSION, a term of various import : thus, among civilians, it is used for the property acquired in such things as are connected with, or appendages of other things : among physicians, it signifies the same with what is more usually called paroxysm : among politicians, it is used for a prince's agreeing to, and becoming a party in a treaty before concluded between other potentates : again, it more particularly denotes a prince's coming to the throne by the death of the preceding king : and lastly, it is used by romanists for a peculiar way of electing a pope ; which is ; when one candidate has got two thirds of the votes, the rest are enrolled by accession.

ACCESSORY, in law, the same with accessary. See the article ACCESSARY.

ACCESSORY nerve, **ACCESSORIUS Wilkii**, or **Par ACCESSORIUM**, a kind of ninth pair of nerves of the neck ; which arising from the spinal marrow in the vertebræ of the neck, enters the cranium by the great foramen in the os occipitis. Here it is joined by the par vagum, and coming out of the cranium again by the same aperture, it recedes from the par vagum, and is bent back to the trapezius, a muscle of the shoulder.

ACCESSORY, among painters, an epithet given to such parts of an history-piece as serve chiefly for ornament, and might have been wholly left out : such are vases, armour, &c.

ACCIDENCE, in literary history, the name given to a small book, containing the rudiments of the latin tongue.

ACCIDENT, *accidens*, in a general sense, denotes something that is unusual, or falls out by chance.

ACCIDENT, among logicians, is used in a three-fold sense. 1. Whatever does

not essentially belong to a thing, as the cloaths a man wears, or the money in his pocket. 2. Such properties in any subject as are not essential to it; thus whiteness in paper is an accidental quality. 3. In opposition to substance, all qualities whatever are called accidents, as sweetness, softness, &c.

Absolute ACCIDENT, is used by the romish church for an accident, which may possibly subsist, at least miraculously, without any subject; an absurdity, which has been strenuously maintained by many of their casuists, and even solemnly decreed by some of their councils.

ACCIDENT, in heraldry, an additional note or mark in a coat of arms, which may be either omitted or retained, without altering the essence of the armour.

ACCIDENTS, in astrology, denote the most remarkable occurrences in the course of a man's life: such are a remarkable instance of good fortune, a signal deliverance, a great sickness, &c.

ACCIDENT, among physicians, is sometimes used for what is more usually called symptom. See SYMPTOM.

ACCIDENTAL, in a general sense, an appellation given to such things as happen by accident. See ACCIDENT.

ACCIDENTAL point, in perspective, that point in the horizontal line, where all lines parallel among themselves meet the perspective plane.

ACCIDENTAL dignities and debilities, in astrology, certain casual dispositions of the planets, whereby they are supposed to be either strengthened or weakened.

ACCIPENSER, in ichthyology, a genus of chondropterygious fishes, the mouth of which is tubular, and has no teeth; there is only one hole or aperture of the gills on each side; and the body is oblong and usually furnished with seven fins. See CHONDROPTERYGII.

Of this genus there are only two species, the sturgeon and huso, or isinglass-fish. See STURGEON and ISINGLASS.

ACCIPITER, in ornithology, the name of a whole order of birds, the distinguishing characteristic of which is, that they have a hooked, or crooked beak.

This order comprehends three genera, viz. the parrot, owl, and hawk-kind. See PARROT, &c.

ACCISMUS, in antiquity, denotes a feigned refusal of what one earnestly desires.

The accismus was a piece of political

diffimulation, for which Augustus and Tiberius are famed.

ACCISMUS, in rhetoric, is accounted a species of irony. See IRONY.

ACCLAMATION, *acclamatio*, in roman antiquity, a shout raised by the people, to testify their applause, or approbation of their princes, generals, &c.

Such is that of Ovid. Fast. 1. 613.

Augeat imperium nostri ducis, augeat annos.

ACCLAMATION is also used, in a bad sense, for expressions of detestation, &c. Vid. Suet. Domit. c. 23.

ACCLAMATION, in rhetoric, the same with what is otherwise called epiphonema. See EPIPHONEMA.

ACCLAMATION medals, among antiquaries, those whereon the people are represented as expressing their joy by acclamation.

ACCLIVIS, in anatomy, the name by which some call the obliquus ascendens. See OBLIQUUS.

ACCLIVITY, a term used to denote the ascent of a hill or rising ground, as declivity is the descent.

Acclivity is sometimes used by writers on fortification, for the talus of the rampart. See TALUS.

ACCOLA, among the Romans, signified a person who lived near some place; in which sense, it differed from incola, the inhabitant of such a place.

ACCOLADE, in antient customs, the ceremony of conferring knighthood, by the king's laying his arms about the young knight's neck, and embracing him.

ACOLLE'E, in heraldry, a term used in different senses: sometimes two things joined together; at other times, animals with collars, or crowns about their necks, and finally, battons, or swords, placed saltierwise behind the shield.

ACCOMMODATION, among divines, is the applying what is said of one person or thing, to another: thus, the words of Isaiah, directed to the Jews of his time, are by St. Paul accommodated to the Jews who were cotemporaries with that apostle.

ACCOMMODATION is also used for an amicable agreement, between two or more contending parties.

ACCOMPANYMENT, in music, is used for the instruments which accompany a voice, to make the music more full.

Among the moderns, the accompaniment

ment frequently plays a different part or melody, from the song it accompanies ; but authors are not agreed, whether or no it was so among the antients.

ACCOMPANYMENT, in heraldry, denotes any thing added to a shield by way of ornament, as the belt, mantling, supporters, &c.

Accompanyment is also used for several bearings about a principal one, as a sal-tier, bend, fess, &c.

ACCOMPLICE, in law, a person who is privy to, or aiding in the perpetration of some crime. See **ACCESSARY**.

By the law of Scotland, accomplices cannot be prosecuted till the principal offenders are first convicted. See the article **ART and PART**.

ACCOMPLISHMENT, in a general sense, denotes the perfecting, or entirely finishing and completing any matter or thing.

ACCOMPLISHMENT is more particularly used for the fulfilling of a prophecy ; in which sense, we read of a literal accomplishment, a mystical accomplishment, &c. See the article **PROPHECY**.

ACCOMPLISHMENT is still more particularly used for the acquirement of some branch of learning, useful art, polite exercise, &c.

ACCOMPT and ACCOUNTANT. See **ACCOUNT** and **ACCOUNTANT**.

ACCORD, in music, the same with what is more usually called concord. See **CONCORD**.

ACCORD, in law, a verbal agreement between two or more, where any one is injured by a trespass, or other offence committed, to make satisfaction to the injured party ; who, after the accord is performed, will be barred in law from bringing any new action against the aggressor for the same trespass. It is safest, however, in pleading, to alledge satisfaction, and not accord alone ; because in this last case, a precise execution in every part thereof must be alledged ; whereas, in the former, the defendant needs only say, that he paid the plaintiff such a sum in full satisfaction of the accord, which he received.

ACCOUNT, or ACCOMPT, in a general sense, is used for all arithmetical computations, whether of time, weight, measure, money, &c.

ACCOUNT is also used collectively, for the books in which merchants, traders, and bankers enter all their business, traffic,

and bargains with each other.

The method of keeping these is called book-keeping. See **BOOK-KEEPING**.

To open an ACCOUNT, is to enter in the ledger, the name, the surname, and the place of abode of the person with whom you have dealings ; after which the several articles are to be posted or placed either on the credit or debit side, according as the person is become your creditor or debtor.

To place or post a sum to ACCOUNT, is to enter it into the ledger, either on the debit or credit side, according as the persons are become debtors or creditors.

To examine an ACCOUNT, is to read it exactly, in order to prove the truth of the computation, or detect errors, if there are any.

To settle an ACCOUNT, is to sum up all its articles, both on the debit and credit side, and find the balance between them ; which being placed on the least side, makes the sum of both equal : this is otherwise called *shutting, balancing, closing, or making up an account*.

ACCOUNT in Company, an account kept by traders in partnership, wherein all articles relating to their joint trade are entered.

ACCOUNT is also used in different senses, as for profit, hazard, &c. thus we say a man has found his account in something, or it has turned to good account ; also, if a man commits errors, they shall be on his own account, &c.

ACCOUNT, in law, is a writ or action, which lies against a person, who, by reason of his office or business, is obliged to render an account to another, but refuses to do it ; as a bailiff, for instance, to his lord.

ACCOUNT, in the remembrancer's office in the exchequer, is the state of any branch of the king's revenue ; as the account of the mint, of the wardrobe, of the army, of the navy, &c.

Chamber of ACCOUNTS, in the french polity, a sovereign court, answering nearly to our exchequer. See the article **EXCHEQUER**.

Account of Sales, among merchants, an account of the disposal and net-proceeds of certain merchandizes, after deducting charges and commission.

Auditing an ACCOUNT, the examining and passing it by an officer appointed on purpose.

ACCOUNTABLE, a term used to denote a person's being liable to be called to account. See the article **ACCOUNT**.

ACCOUNTANT, or **ACCOMPTANT**, in a general sense, denotes one whose business it is to keep accounts. See the article **ACCOUNT**.

The term accountant is applicable, in a more restricted sense, to a person, or officer, appointed to keep the accounts of a public company or office: thus, we say the accountant of the South-Sea, of the India-Company, of the Bank, of the Custom-house, of the Excise, &c.

ACCOUNTANT-general, in the court of Chancery, a new officer appointed by act of parliament to receive all monies lodged in court, and convey the same to the bank of England for better security. The salary of this officer and his clerks is to be paid out of the interest made of part of the money; it not being allowable to take fees in this office.

ACCOUNTANTSHIP, a term used to denote the art of keeping merchant's accounts, more usually called book-keeping. See the article **BOOK-KEEPING**.

ACCOUNTING-HOUSE, **COUNTING-HOUSE**, or **COMPTING-HOUSE**, a place or office set apart by merchants and other traders, in which to keep their books of accounts, and vouchers belonging to them, as well as to transact their business.

ACCOUTREMENT, an old term, signifying dress, still used for the furniture of a soldier.

ACCRETION, in natural history, the increase or growth of a body by an external addition of new parts: thus it is, salts, shells, stones, &c. are formed.

ACCRETION, among civilians, a term used for the property acquired in a vague or not occupied thing, by its adhering to or following another thing already occupied; thus, if a legacy be left to two persons, and one of them die before the testator, the legacy devolves to the survivor by right of accretion. Alluvion is another instance of accretion. See the article **ALLUVION**.

ACCROCHE, in heraldry, denotes a thing's being hooked into another.

ACCROCHING, in our old law-books, is used for incroaching, or usurping upon another man's right.

ACCRUE, or **ACCREW**, in law, is said of a thing that is connected as an appendage to something else.

ACCUBATION, in antiquity, the posture used among the Greeks and Romans at table: which was with the body extended on a couch, and the head resting on a pillow, or on the elbow, supported by a pillow.

Pitiscus tells us the manner in which the guests were disposed, which was this: a low round table was placed in the dining-room, about which stood sometimes two, but more usually three beds or couches; from the number whereof the dining-room got the name of *Biclinium* or *Triclinium*. These couches were covered with richer or plainer cloaths, according to the quality of the person, and furnished with quilts and pillows. Each couch usually contained three persons: it being deemed fordid to crowd more.

The first lay at the head of the bed, with his legs extended behind the second; who lay in the same manner in regard to the third. The middle place passed for the most honourable. However, before placing themselves, they always took care to pull off their shoes, and put on what was called the *vestis canatoria*.

ACCUMULATION, in a general sense, the act of heaping or amassing things together.

ACCUMULATION, among lawyers, denotes the concurrence of several titles to the same thing, or of several circumstances or proofs to make out one fact.

ACCUMULATION, among ancient gardeners, was the covering the roots of trees by throwing on them the earth which had been dug up in ablaqueation. See the article **BARING of trees**.

ACCUMULATION of degrees, in an university, the taking several of them together, or at smaller distances from each other than usual, or than the rules allow of.

ACCURSED, in a general sense, denotes something that is detestable, or a person abandoned to impiety and wickedness. See the article **ANATHEMA**.

Accursed is more particularly used for an excommunicated person. See the article **EXCOMMUNICATION**.

ACCUSATION, among civilians, the bringing a criminal action against any person; in which sense, it differs only in circumstances from what among us is called impeachment. See the article **IMPEACHMENT**.

Writers on politics treat of the benefit and the inconveniences of public accusations. Various arguments are alledged, both for the encouragement and the discouragement

agement of accusations against great men. Nothing, according to Machiavel, tends more to the preservation of a state, than frequent accusations of persons trusted with the administration of public affairs. This, accordingly, was strictly observed by the Romans, in the instances of Camillus, accused of corruption by Manlius Capitolinus, &c. Accusations; however, in the judgment of the same author, are not more beneficial than calumnies are pernicious; which is also confirmed by the practice of the Romans. Manlius not being able to make good his charge against Camillus, was cast into prison.

ACCUSATIVE, among latin grammarians, the fourth case, which is always governed by an active verb or preposition, expressed or understood: thus, *amo deum*, I love God; *eo Londinum*, i. e. *eo ad, vel versus Londinum*, I am going to London, or I am on my way to London.

ACE, among gamblers, a card or die marked only with one point.

ACEPHALOUS, in a general sense, denotes something without a head: thus we read of many fabulous stories, in ancient geographers, as well as in some modern voyages, of nations without heads, whose eyes, mouth, &c. were placed in their breasts or shoulders.

But how unaccountable soever it may be to represent whole nations as acephalous, nothing is more certain, than that there are many instances of acephalous births, or children born without heads.

ACEPHALOUS, in our old law books, an appellation given to such poor persons as held nothing of any superior.

ACEPHALUS, any verse which is defective in the beginning.

ACER, the maple-tree, in botany. See the article **MAPLE**.

ACERB, a taste partaking of a great deal of sourness, joined to a certain degree of roughness and astringency; such is that of unripe fruits.

ACERENZA, or **CIRENZA**, a town of the kingdom of Naples, situated at the foot of the Apennine: It is the capital of the province Basilicata. E. longitude $16^{\circ} 45'$ N. latitude $40^{\circ} 40'$.

ACERNO, or **ACIERNO**, a town of the kingdom of Naples, about thirty miles S. E. of Naples. E. longitude $15^{\circ} 40'$ N. latitude $40^{\circ} 50'$.

ACERRA, in antiquity, a kind of altar erected near the bed of a dead person, on

which incense and other perfumes were burnt till the time of the burial. See the article **BURIAL**.

ACERRÆ also denoted the pots wherein the incense was burnt: hence we read of *plena acerra*, a full acerra.

ACERRA, in geography, a city of the K. of Naples in the province of Lavoro, about eight miles N. of Naples. It is a bishop's see.

ACETABULUM, in antiquity, a kind of plate wherein sauce was served to table, and not unlike our salts or vinegar cruets.

Acetabulum was also a Roman measure, used as well for dry things as liquids; and equal to a cyathus and an half. See the articles **MEASURE** and **CYATHUS**.

ACETABULUM, in anatomy, a hollow cavity in the heads of certain bones serving to receive the protuberant heads of others, and thereby forming the articulation called enarthrosis.

The acetabulum is lined with a cartilage, the circular margin of which is called *supercilium*.

ACETABULUM, in botany, a genus of sea-plants, the leaves of which are shaped like a basin. See plate V. fig. 4.

Some will have the acetabulum to be of animal origin, and produced by sea insects.

ACETARY, a term used by Grew for a certain part in the structure of some fruits, so called on account of its sourness.

ACETOSA, **SORREL**, in botany. See the article **SORREL**.

ACETOSE, or **ACETOUS**, an epithet used for such things as partake something of the nature of vinegar: hence we say, an acetous taste, acetous quality, &c.

ACH, or **ACHE**, in medicine, denotes a severe pain in any part of the body.

Head-ACH, } See { **HEAD-ACH**.
Tooth-ACH, } See { **TOOTH-ACH**.

ACHAM, **ACHAN**, or **ACHEM**, in geography, a large city, which is the capital of a kingdom of the same name, in the island of Sumatra.

ACHANE, in persian antiquity, a corn-measure equal to forty-five attic medimni. See the article **MEDIMNUS**.

ACHAT, in law-books, denotes a contract, or bargain, especially in the way of purchase.

ACHATES, the *Agat*, in natural history. See the article **AGAT**.

ACHERNER, in astronomy, a star of the first magnitude, in the southern extremity

tremity of the constellation eridanus. See the article ERIDANUS.

ACHILLEA, in the linnæan system of botany, a genus of the syngenesia polygamia superflua class of plants, the common calyx of which is ovated, and imbricated with oval acute connivent squamæ: the compound flower is radiated; the hermaphrodite florets are numerous and tubulous; the female florets are ligulated; and the proper hermaphrodite ones funnel-shaped: there is no pericarpium, and the seed is single, oval, and naked.

ACHILLEA is also a name often given by the antients to the gum, called in the shops dragon's blood. See the article DRAGON'S BLOOD.

ACHILLEID, **ACHILLEIS**, in literary history, a celebrated poem of the epic kind, composed by Statius in honour of Achilles: It takes in only the infancy of that hero, the poet being prevented by death from describing all his actions, as he intended to have done.

ACHILLES, an appellation, sometimes given to the principal argument, made use of by each sect of antient philosophers, in defence of their system. It has got this name, in allusion to the strength of Achilles.

Achilles is particularly used for Zeno's argument against motion, which consisted in making a comparison between the swiftness of Achilles, and the slowness of a tortoise; from whence he inferred, that a slow body, if but ever so small a distance before a swift one, could never be overtaken by it.

Tendon of Achilles. See the article TENDON.

ACHIOTTE, a drug brought from America, and used in dying, as well as in preparing chocolate.

It is the produce of a species of mitella, a tree which has no leaves, but instead thereof a kind of filaments like those of saffron, only larger. Between these, are found small grains of a vermilion-colour, about the size of pepper-corns; these the Indians bake in cakes to be sent into Europe.

Achiotte, besides the above-mentioned uses, is esteemed a powerful cordial, as well as a preservative for the retention of urine.

ACHLIS, the same with machlis. See the article MACHLIS.

ACHLYS, in medicine, denotes a dimness of sight, arising from a small cloud,

or scar, remaining after a superficial ulcer of the cornea.

ACHIOR, in medicine, a kind of running ulcer on the face, chiefly infecting children, but sometimes also grown persons. A child's face is not unfrequently broken by these achiores into a number of small holes, which discharge a moderately viscid humour. It is dangerous to repel or drive the humour inwards; a fever or epilepsy being often the consequence.

ACHRAS, the **WILD PEAR-TREE**, in botany, a genus of plants, the characters of which are not perfectly known: the flower consists of five erect petals, of a cordated shape; and the fruit is an oval berry divided into five cells. The fruit of the achras is more drying, astrigent, and sour, than common pears.

ACHRONICAL, **ACHRONYCAL**, or **ACRONYCHAL**, in astronomy. See the article ACRONYCHAL.

ACHYRANTHES, or **ACHYRACANTHA**, in botany, a genus of the *pentandria monogynia* class of plants, having no corolla; the calyx is a perianthium, composed of five lanceolated, acute, rigid, pungent, and permanent dry leaves; there is no pericarpium; the seed is single, roundish, and compressed.

ACICULÆ, in natural history, certain small spikes, or prickles, in form of needles, wherewith nature has armed several animals, as the hedge-hog, *echinus marinus*, &c.

ACID, in a general sense, denotes such things as affect the palate with a sour, sharp, and tart taste.

This property of bodies is generally attributed to a particular class of salts, called acid salts; supposed to be solid spiculæ, sharp-pointed at both ends. Their solidity is inferred from their dissolving the hardest bodies, their sharpness from their pungency on the tongue; and their being pointed at both ends, from their penetrating the hardest substances with ease.

The great characteristic of acid bodies, is, that they make a violent effervescence when mixed with alkaline substances, and turn a blue tincture of violets red; whereas alkaline substances, mixed with the same tincture, turn it green.

Acid and alkali have been considered by some chemists, as the two athletes of nature, the great instruments whereby all things were effected; and the cause not only of natural, but præternatural things, as diseases and cures.

This hypothesis, we chiefly owe to Tachenius, a German apothecary and chemist, and a follower of Helmont's system; who published two books, to shew that all natural things are composed of alkali and acid. The acid, which he held was generated in the air, from the sun, and contained in it the hidden seeds, or souls of all things, associated the alkali to itself; and from hence, as a passive subject, arose the esse or forms of things. All this he pretended to prove by the authority of Hippocrates. He was followed by Swalve, and his doctrine has been since defended by others; but combated and refuted by Bohnius, Boyle, Bertrand, Pitcairn, Hoffman, &c.

Some have pretended to mend the hypothesis of acid and alkali, by altering it into acid and viscid; which they will have to be the causes of all diseases, and fluid alkali the instrument of all cures. This doctrine is asserted by Bontekoe and Blanchard, but refuted by Hoffman. See the article ALKALI.

The chemists call all substances acids which make an effervescence with an alkali. However, this does not seem to be a true characteristic of acids, because some acids will cause an effervescence, upon being mixed with acids of a different kind; and alkaline substances will do the same with alkalies; and acids with bodies which are neither alkaline nor acid, but neutral.

Acids seem to be of the greatest use in the oeconomy of the world, because they are so universal. In the bowels of the earth we meet with them in almost every mine and mineral; but principally in those prodigious rocks of salt, which are found in almost every country, and which the industry of a great many ages have not been able to exhaust. Such are those in the famous salt-mines in Poland, and our own in Cheshire, where vast quantities are got every year, and exported. Not to mention the quantities of acids hourly discharged from the bowels of the earth, in the salt which may be found, by a nice examination, in the waters of every spring, the freshest not excepted.

In the air the acid is universal, and that in every part of it.

It is remarkable that the acid abounds more in the air, when the winds blow from the east and north, and when the weather is serene. This the learned Hoffman informs us is confirmed by the observations of those who are concerned in nitre-works, who remark, that, during

these winds, their alkaline earth is impregnated with an acid. Now as these winds are remarkably cold, and as acid spirits, particularly that of nitre, increase the coldness of ice to a prodigious degree, there seems reason to believe, that the aerial acid is more concerned in the production of cold in the air than is generally imagined. The analogy between acids and cold, and alcalies and heat is very remarkable. The principal acids are vinegar and its spirits; the juices of lemons, oranges, sorrel, citrons, &c. also the spirits of nitre, alum, vitriol, sulphur, and sea-salt.

ACID menstruum. Vegetable acids will intimately dissolve many vegetable, mineral, and even metallic bodies: thus, horn, bone, shell, and the flesh of animals, are thereby reduced into a transparent liquor. See the articles MENSTRUUM, DISSOLVENT, and SOLUTION.

They likewise act upon all the metals, except gold, silver, and quick-silver. Fossile acids are still more powerful, dissolving the hardest and purest metals, which the vegetable ones will not touch: these are so strong, as generally to destroy or prove poisonous to animals. Thus, if nitre be ground with an equal quantity of colcothar of vitriol, or burnt alum, and then distilled in a strong fire, it will afford a good spirit of nitre, called by the refiners *aqua fortis*, which dissolves silver into extremely bitter, and caustic crystals. Spirit of sea-salt is a solvent for gold, which no other acid in nature will touch. See AQUA-FORTIS and AQUA-REGIA. Chemists observe, that the strongest acid menstruum, by dissolving its proper subject, is changed into an insipid, unactive matter, no longer retaining the dissolving power it had before. Hence, it is not improbable, that these acids are generated and destroyed: for no spirit of nitre hath ever been found native, but is always produced from nitre already formed. Therefore these acids in dissolving bodies, concrete therewith, and are changed into new substances.

General properties of ACIDS. All acids agree, 1. In uniting with alkaline substances, making effervescences with them, and producing new kinds of salts. 2. They also agree, in combining with chalk, coral, crabs-eyes, pearl, shells, horn, bone, quick-lime, iron, copper, &c. all which are dissolved quicker or slower by every acid. Now these solutions, except the metallic ones, lose all the acrimony of the dissolving acid: thus, for instance, if spirit

spirit of nitre be perfectly saturated with crabs eyes, this solution will prove a limpid, and almost insipid liquor; and when diluted with fair water filtered and kept for some time in a gentle heat, it might pass for pure water; but upon adding fixed alkali thereto, the crabs eyes before dissolved will soon fall to the bottom, and shew that the solution was not pure water. Hence, therefore, we may easily be imposed upon in the judgment we form of water by taking that for pure element, which contains numerous dissolved and dissolving particles. 3. Acids also agree in not only concreting with the subjects they dissolve, but likewise in thereby losing their dissolving power. 4. It is also a property of all acids, to change the colour of vegetable juices into red, as we see in the juice of violets, roses, turnsol, &c. 5. They all agree likewise in this, that they do not so much change the bodies they dissolve, as they are changed by them: thus, vinegar remains no longer vinegar in the lead it has dissolved, nor can be separated from it again; whereas the lead may be again recovered, and so in other instances. 6. All acids may be diluted with water, and united with spirits and oils: thus, spirit of nitre unites with alcohol, though not without conceiving great heat, discharging red fumes, and making a strong and almost fiery effervescence. The same spirit of nitre, upon uniting with oils, generally raises a violent heat, and sometimes a motion productive of fire and flame. By mixing acids with oils, a bituminous, pitchy, or sulphureous matter is commonly produced.

Their differences. Acids differ considerably from one another. 1. In regard to strength, or the quantity of true acid with respect to the water they contain: thus, according to Homberg, an ounce of the best vinegar holds but 18 grains of true acid, the rest being water; an ounce of spirit of salt, 73 grains of true acid; an ounce of spirit of nitre, 2 drams and 23 grains of true acid; and an ounce of oil of vitriol, 4 drams and 65 grains. 2. In regard to their solvent power. Thus, spirit of nitre scarce touches gold, with a boiling heat, or at most renders it black; but presently dissolves silver; whilst *aqua regia* has the contrary effect. 3. In being differently affected by the bodies they dissolve: thus spirit of vinegar, by dissolving lead, becomes thick and

unctuous; which is not the case with spirit of nitre. 4. One and the same acid is variously changed by acting upon different bodies: thus spirit of vinegar may be recovered after dissolving lead, but is irretrievably lost by dissolving iron.

Inflammability and explosive power of ACIDS. Not only are pure acids readily set on fire, and even their minute particles dispersed in the interstices of other bodies; but, what is more remarkable, if the acid spirit of nitre be mixed with an equal quantity of any of the aromatic oils, as that of cloves, saffras, turpentine, &c. it instantly bursts into a lucid flame with an excessive ebullition and explosion.

ACIDS, in medicine. Not long ago, it was fashionable among physicians to explain the nature of diseases by the doctrine of acids and alkalies; a custom, which, however fallen into disrepute, is still followed by some, and that with reason in regard to particular disorders. Thus, the heart-burn, chlorosis, and other stomachic disorders may be accounted for from a prevailing acid humour, which is corrected by an animal diet, and the use of such vegetables as contain an aromatic oil. Aborbents, volatile-salts, and broths prepared from the flesh of young healthy animals, are likewise recommended. See *CARDIALGIA* and *CHLOROSIS*.

ACIDS, in the materia medica, denote such medicines as are possessed of an acid quality; such are vinegar, spirit of vitriol, &c.

These being powerful antiseptics, are esteemed good in all putrid and malignant diseases, and by their cooling virtue are no less efficacious in inflammatory and feverish cases. However, great care ought to be taken not to administer them in such large quantities, as to corrode the bowels, or coagulate the blood.

Acids are also commended in the plague, and as styptics. Thus, vinegar not only serves to stop hæmorrhages, but being sprinkled upon a red-hot tile or iron, corrects the putrefaction of the air. See the article *PLAGUE*, &c.

ACIDITY, aciditas, that quality in bodies which renders them acid. See *ACID*.

ACIDULÆ, in natural history and medicine, a term used for the cold mineral waters, or such as are impregnated with some acid mineral, as alum, vitriol, nitre, &c. See the article *MINERAL WATER*. This opinion took its rise, no doubt, from the taste of these waters, which is sharp,

sharp, brisk, and pungent, whilst they are fresh. The supposition too, that there is an universal acid contained in the earth, serves to establish it.

ACIDULATED, among physicians, an appellation given to such medicines, as have been mixed with some acid. See the article **ACID**.

ACINACES, in antiquity, a kind of cutlas, or scimeter, in use among the Persians.

ACINI, among botanists. See **ACINUS**.

ACINIFORMIS tunica, in anatomy, the same with uvea. See the article **UVEA**.

ACINUS, in botany, a name given to grapes or berries growing in clusters, in opposition to baccæ, or such berries as grow single.

ACKNOWLEDGEMENT, in a general sense, is the owning or confessing something; but, more particularly denotes the reward of some service, or the grateful requital of a favour received.

ACKNOWLEDGEMENT - money, a certain sum paid by tenants in several parts of England, on the death of their land-lords, as an acknowledgement of their new lords.

ACLIDES, in roman antiquity, a kind of missive weapon, with a thong fixed to it, whereby it might be drawn back again. Most authors describe the aclides, as a sort of dart or javelin; but Scaliger makes it roundish, or globular, with a wooden stem to poise it by.

ACME, in a general sense, denotes the height, point, or top of any thing. Among physicians, it is used for the highest pitch to which a distemper rises. It also denotes the prime or best part of a thing.

ACOMETI, *ακομηται*, in church history, a kind of antient monks, who performed divine worship night and day in their churches. The religious of the holy sacrament among the papists, are still acometi.

ACOLUTHI, or **ACOLYTHI**, in church history, denotes candidates for the ministry, so called from their continually attending the bishop.

ACOLUTHI is also used for the bodyguards, who attended the emperors of Constantinople.

ACOLUTHI, *ακολυθοι*, is also an appellation given to the stoics, on account of their steady adherence to what they had once resolved.

ACOMAC, a county of Virginia, being a kind of peninsula, formed by the

Atlantic ocean, and the bay of Chesapeake.

ACONE, in natural history, a kind of whetstone, otherwise called coticula. See the article **COTICULA**.

ACONITE, *aconitum*, in botany, the name of a genus of plants, called in english wolfsbane, or monkshood. This genus, according to the Linnæan system of botany, is of the polyandria trigynia class, having no calyx. Its flower is of the polypetalous, anomalous kind; composed of five irregular leaves, resembling in some measure a man's head with a helmet or hood on it. The upper petal represents the hood or helmet; the two lower ones stand for that part which covers the lower jaw; and the two wings seem adapted for covering the temples. From the center of the flower, there arise two pistils, resembling feet, and received into the hollow of the upper petal, or hood; as is also another pistil, which finally becomes a fruit, composed of several membranaceous vaginæ collected into a head, and usually containing angular and wrinkled seeds. See plate V. fig. 5.

All the species of aconite are extremely acrimonious, thereby occasioning mortal convulsions, or inflammations that end in a mortification.

ACONITUM, **ACONITE**, in botany. See the article **ACONITE**.

ACONTIAS, in zoology, a species of serpent, otherwise called *jaculum*, or the dart-snake, from its vibrating its body in the manner of a dart. It is about nine or ten inches long, and of the thickness of a man's little finger. On the back it is of a milky grey colour, variegated with small black spots, surrounded with a white circle, like so many eyes.

The neck is wholly black: and from it there run two milk-white streaks along the back to the tail. The belly is perfectly white. It is found in Egypt, and in the islands of the Mediterranean.

ACONTIAS is also used by naturalists for a kind of comet, or rather meteor, with a roundish or oblong head, and a long slender tail resembling a javelin; from whence it takes its name.

ACONTIUM, *ακοντιον*, in grecian antiquity, a kind of dart or javelin, resembling the roman pilum.

ACORN, the fruit of the oak. See the article **OAK**.

Acorns are said to have been the primitive

Fig. 1. ACARNAN.

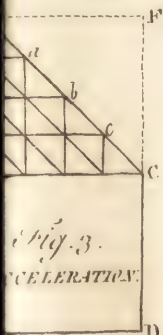
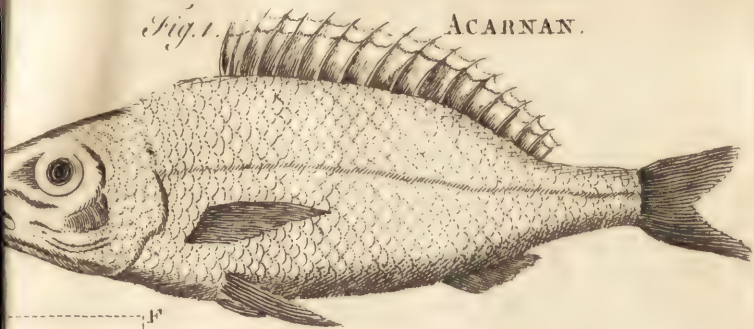


Fig. 2. ACARUS.



Fig. 4. ACETABULUM.



Fig. 5. ACONITE, or WOLF'S-BANE.

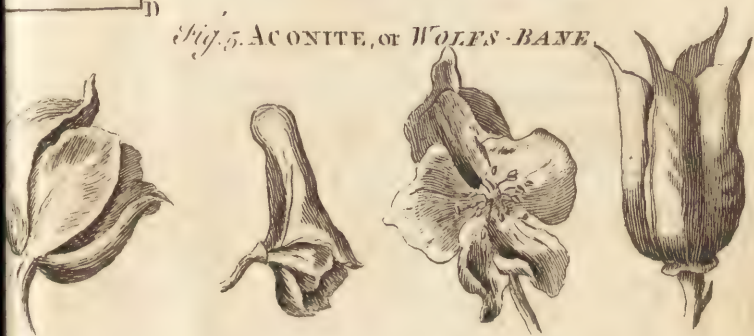
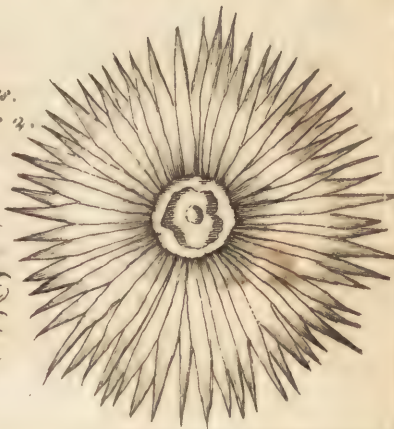


Fig. 6. ACTINIA,

naked Sea Insect with numerous Rays.

Species 1.

Species 2.





tive food of mankind. They are astringent, and therefore esteemed good in fluxes. However, they are principally used at present, for fattening of hogs, poultry, &c.

ACORUS, *the sweet flag*, in botany, a genus of the hexandria monogynia class of plants, the calyx of which consists of a very simple cylindric spadix, covered with floscules; the corolla consists of six hollow, lax petals, broadest at top, and, as it were, truncated; the fruit is a short triangular capsule, obtusely acuminate at each end, and contains three cells: the seeds are of an oblong and oval figure. The root of this plant is said to be a diuretic and attenuant, and is recommended in obstructions of the viscera: it is at present, however, used as a cordial, stomachic and carminative; for opening obstructions of the spleen and uterus, and promoting the menses.

ACOUSMATICI, *ακουσματοι*, in grecian antiquity, such disciples of Pythagoras, as had not finished their five years probation. See **PYTHAGOREANS**.

The acousmatici were instructed by bare positive precepts and rules, without reasons or demonstrations; these precepts they called acousmata, which were divided into three kinds. The first, such as asserted what something is; *e. gr.* what is the sun, the moon, the tetractys, or the like. The second, such as told what is most such a thing; *e. gr.* what is most just? to sacrifice: what is the most powerful? reason: what is the truest? that men are wicked: The third prescribed what is to be done, and what not; *e. gr.* that we ought to beget children; that we are to put off the right shoe first: that we ought not to go in the common road, &c. Such were the pythagorean acousmata; and those among his disciples who retained the greatest fund of these, were esteemed the wisest men.

Some have denied the appellation of pythagoreans to be due to the acousmatici, in regard many of these had their learning not immediately from Pythagoras, but from Hippasus, who, according to some, was of Crotona, but according to others, of Metapontium.

ACOUSTICS, *ακουσικα*, denote the science of hearing, or of sounds in general, otherwise called phonics. See **PHONICS**.

ACOUSTICS are also used, by physicians, for such medicines as are good in cases of deafness. See the article **DEAFNESS**.

ACOUSTIC duct, in anatomy, a name

sometimes given to the external passage of the ear, more usually called meatus auditorius. See the article **MEATUS**.

ACOUSTIC instrument, one continued to assist hearing. It is fashioned in the manner of a horn, with a perforation in the smaller end, which is fitted to be put into the ear.

ACOUSTIC nerves, the same with auditory nerves. See **AUDITORY NERVES**.

ACQUAPENDENTE, a town and bishop's see of Italy, about forty-six miles north of Rome. E. longitude 12° 40'. N. latitude 42° 40'.

ACQUEST, or **ACQUIST**, in law, denotes goods not descended by inheritance, but acquired by purchase or donation.

Acquest is also popularly used for conquest, or lands acquired by the sword.

ACQUI, a town of Italy in the duchy of Monterrat. It is a bishop's see, and situated upon the river Bornio. E. longitude 8° 40' N. latitude 44° 45'.

ACQUIETANDIS plegiis, in law, a writ which lies for a surety against a creditor, who refuses to acquit him after the debt is paid.

ACQUIETARE, in old law books, signifies to discharge or pay the debts of a person deceased, as the heir to those of his father.

ACQUISITION, in a general sense, denotes the obtaining or procuring something. Among lawyers, it is used for the right or title to the enjoyment and property of an estate got by purchase.

Acquisition is also used in a synonymous sense with acquest. See **ACQUEST**.

ACQUITTAL, in law, is a deliverance or setting free from the suspicion of guilt; as one who is discharged of a felony, is said to be acquitted thereof.

Acquittal is either in fact or in law; in fact, it is where a person, on a verdict of the jury, is found not guilty; in law it is when two persons are indicted, one as a principal, &c. the other as accessory: here if the former be discharged the latter of consequence is acquitted.

Acquittal is also used for a freedom from entries and molestations of a superior lord, on account of services issuing out of land.

ACQUITTANCE, a discharge in writing for a sum of money, witnessing that the party is paid the same.

A man is obliged to give an acquittance, on receiving money; and a servant's acquittance for money received for the use of his master, shall bind him, provided the servant used to receive his master's

rents.

rents. An acquittance is a full discharge, and bars all actions, &c.

ACRA, a town of Africa, on the coast of Guinea, where the British have a fort and factory: W. longitude 2'. and N. latitude 5°.

ACRASIA, among physicians, a term sometimes used for the predominancy of one quality above another; and that as well in artificial mixtures, as in the humours of the human body.

ACRE, a measure of land containing four square roods, or one hundred and sixty square poles. See **MEASURE**.

The *arpent* or french acre, is equal to $1\frac{1}{4}$ of the english acre. That of Strasburg is only about one half of the english acre.

The scotch acre is to the english acre by statute, as 100,000 to 78,694.

We have computations of the number of acres contained in several countries: thus, England is said to contain 39 millions and upwards; and the united provinces about 4 millions and one third.

ACRE-tax, a tax levied upon lands, at a certain rate by the acre, otherwise called *acre-shot*.

ACREME, in old law books, is used for a portion of land, containing ten acres.

ACRID, an appellation given to such things as are of a sharp, or pungent taste. Antient naturalists distinguished two kinds of acrid tastes; one proceeding from hot and dry, as in pepper; the other from hot and moist, as in garlic.

According to Grew, acrid is a taste compounded of pungency and heat.

Acrid bodies cause thirst, driness, heat, inflammation, &c.

They likewise quicken the motion of the fluids, corrode the solids, &c. and therefore ought to be taken with great caution.

ACRIDOPHAGI, *ακριδοφάγοι*, in antient geography, a fabulous nation of Ethiopia, said to have lived on locusts; from *ακρις*, a locust, and *φαγω*, I eat.

ACRIMONY, that quality in things which renders them acrid. See **ACRID**.

The acrimony of the humours of the human body may be owing either to stagnation, or to too great an agitation.

ACROAMATIC in the aristotelian schools, the same with *acroatic*. See **ACROATIC**.

ACROAMATIC is also used, in a more general sense, for any thing that is sublime, or abstruse: thus, we read of an *acroamatic* philosophy, theology, &c.

ACROAMATICI, an appellation given to such of Aristotle's disciples as were instructed in his *acroamatic*, or sublime philosophy.

ACROATIC, in the aristotelian schools, a denomination given to such lectures as were calculated only for the intimate friends and disciples of that philosopher; being chiefly employed in demonstrating some speculative, or abstruse part of philosophy.

The *acroatic* lectures stood contradistinguished from the *exoteric* ones, which were adapted to a common auditory.

ACROBATICA, or **ACROBATICUM**, in grecian antiquity, an engine on which people were raised aloft, that they might have the better prospect.

It was of the same nature with the *scansorium* of the latins. See **SCANSORIUM**.

ACROCHIRISMUS, *ακροχίρισμος*, in grecian antiquity, a kind of gymnastic exercise performed with the fists, without closing at all.

Some make this a distinct exercise from wrestling, and suppose it to have given the denomination *acrochiristæ*, to a peculiar set of *athletæ* who professed it. Others with more probability consider it as only a species, or branch of wrestling; some will have it to have been properly only a prelude to a wrestling bout, where-with the *athletæ* began to try each others strength, and bring their arms into play.

This exercise made part of the *pancratium*. Pausanias speaks of a famous *pancratiast*, named *Sostrates*, who got the surname *Acrocherites*, or *Acrocheiristes*, from his having overcome all his antagonists at the *Acrochirism*. — It appears to have been in use in the age of Hippocrates, who ascribes to it a virtue of extenuating the rest of the body, and making the arms fleshy. See the article **PANCRATIUM**.

ACROCHORDON, among antient physicians, a painful kind of wart, very prominent and pendulous. See **WART**.

These are also called *penfiles verrucae*, or hanging warts, and stand distinguished from *sessiles Verrucae*, or *myrmecia*. See the article **MYRMECIA**.

Others describe the *acrochordon*, as a harder, rougher sort of wart, growing under the cutis, very callous, and usually of the same colour with the skin; small at bottom and bigger upwards, but rarely exceeding the size of a bean.

ACROMION, or **ACROMIUM**, in anatomy, the name of the upper part of the scapula, or shoulder-blade. See the article **SCAPULA**.

ACROMONOGRAMMATICUM, a kind of poem, wherein every verse begins

gins with the same letter with which the preceding verse terminates.

ACRONYCHAL, or **ACHRONYCAL**, in astronomy, an appellation given to the rising of a star above the horizon, at sunset; or to its setting, when the sun rises. Acronychal is one of the three poetical risings of a star; the other two being called cosmical and helical. See the articles **COSMICAL** and **HELICAL**.

This term is also applied to the superior planets Saturn, Jupiter, and Mars, when they are come to the meridian of midnight.

ACROSPIRE, the popular term for what among botanists is called the germ, plume, or plumule.

ACROSPIRED, in malt-making, a term used for such grains of barley as shoot or sprout out at the blade-end, as well as at the root-end. See the article **MALT**.

To allow barley to acrospire, exhausts the substance of the grain too much, and consequently spoils the future malt.

ACROSTIC, in poetry, a kind of poetical composition disposed in such a manner, that the initial letters of the verses make some person's name, title, motto, &c.

The acrostic is a species of false wit, which derives its origin from the times of monkish ignorance.

ACROSTICUM, in botany, the name of a genus of the cryptogamia class of plants, and of that order called the filices, the fructifications of which are collected into clusters, and cover the whole under surface of the leaves.

ACROSTOLIUM, *ακροστολίον*, in the naval architecture of the antients, the extreme part of the ornament used on the prows of their ships. This was of various forms; sometimes in the shape of a buckler, helmet, animal, &c. but more frequently circular, or spiral.

It was usual to tear the acrostolia from the prows of vanquished ships, as a token of victory.

Authors, not unfrequently, confound the acrostolia with the decorations of the poop or stern, as also with the rostra; from which, however, they are very distinct. See **ROSTRUM** and **APLUSTRE**.

ACROTERIA, in architecture, small pedestals upon which globes, vases, or statues stand at the ends or middle of pediments, or frontispieces. The height of those at the extremes, should be only half that of the tympanum; whereas that in the middle ought to be one eighth part more. See the articles **PEDIMENT** and **TYMPANUM**.

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This term likewise denotes the figures placed as ornaments, or crownings, on the tops of churches; and sometimes those sharp pinnacles, standing in ranges about flat buildings, with rails and balustrades.

ACROTERIA, among antient physicians, a term used to denote the larger extremities of the body, as the head, hands, and feet. Acroteria is also used for the tips of the fingers, and sometimes for the eminences of the bones.

ACROTERIASM, *ακροτερισμός*, in antient surgery, the amputation, or cutting off the extremities of the body. See the article **AMPUTATION**.

ACROTHYMIA, in surgery, a large tumour, usually rising in the shape of a wart, tho' sometimes depressed and flat.

ACT, *actus*, in a general sense, denotes the exertion, or effectual application of some power or faculty.

Act is distinguished from power, as the effect from the cause, or as a thing produced, from that which produces it.

Philosophers and divines mention various kinds of acts, as an infinite act, or one which requires infinite power to produce it; such is creation: a finite act, or one which may be effected by a limited power; such are all human actions: a transient act, or one exercised on something foreign to the agent; such is heating: an immanent act, or one which is effected within the agent himself; such is the act of thinking.

ACT, among logicians, more particularly denotes an operation of the human mind; in which sense comprehending, judging, willing, &c. are called acts. See the article **COMPREHENSION**, &c.

ACT, among lawyers, is used for an instrument or deed in writing, serving to prove the truth of some bargain or transaction. Thus, records, certificates, &c. are called acts.

ACT is also used for the final resolution, or decree of an assembly, senate, council, &c. See the article **ASSEMBLY**, &c.

Acts of parliament are called statutes; acts of the royal society, transactions; those of the french academy of sciences, memoirs; those of the academy of sciences at Petersburg, commentaries; those of Leipzig, *acta eruditorum*; the decrees of the lords of session, at Edinburgh, *acta sederunt*, &c.

ACT of faith, *auto de fe*, in the church of Rome, a kind of jail-delivery, for burning or setting at liberty the prisoners of the

the inquisition, or heretics, as they are called.

An act of faith is the utmost exertion of priestly tyranny, and a reproach to humanity itself; the tragical part of which, is thus described by those who have seen it. The prisoners being clothed in proper habits, are carried, in a solemn procession, to the place of execution; where there are as many stakes set up as there are prisoners to be burnt, with a quantity of dry furze about them. Those who make profession of dying in the communion of the church of Rome, are first strangled, and then burnt to ashes; but those who persist in their heresy, are chained to stakes about four feet high, a board being fixed on the top of the stake for that purpose. On this the jesuits, after repeated exhortations to be reconciled to the church, deliver them over to the devil, who, they tell them, is standing at their elbow to receive their souls, and carry them with him into the flames of hell; which instance of catholic charity is followed by loud shouts from the deluded mob, crying out, *let the dogs be singed*: this they do by holding a bush of flaming furze, fastened to a pole, to their faces, till they are burnt to a coal. At last, fire is set to the furze at the foot of the stake; but the unhappy sufferers are placed so high, that the flame seldom reaches higher than the seat on which they sit, so that they seem rather roasted than burnt.

Such is the wretched death these poor people suffer, and that for no other reason, for crime it certainly is not, than that they cannot swallow all the absurdities of popery! How shocking is the practice! How detestable, beyond expression, the authors and promoters of it! From such a religion, and such diabolical maxims, will not every protestant most fervently pray to God to deliver us?

As to those who escape the flames, some are imprisoned, and others obliged to do penance during their lives.

ACT of Grace. See the article GRACE.

ACTS of the Apostles, a canonical book of the New Testament, which contains a great part of the lives of St. Peter and St. Paul, beginning at the ascension of our Saviour, and continued down to St. Paul's arrival at Rome, after his appeal to Cæsar; comprehending in all about thirty years. St. Luke has been gene-

rally taken for the author of this book, and his principal design in writing it was to obviate the false acts and false histories which began to be dispersed up and down the world. The exact time of his writing it is not known, but it must have been at least two years after St. Paul's arrival at Rome, because it informs us that St. Paul dwelt two whole years in his own hired house; perhaps he wrote it, while he remained with St. Paul, during the time of his imprisonment.

ACTS, in dramatic poetry, are certain divisions, or parts of a play, designed to give some respite both to the actors and spectators. See the article DRAMA.

The acts are always five, in regular and finished pieces; a rule not unknown to the Romans, as appears from Horace,

Neu brevior quinto, neu sit productior, actu.

According to some, the first act, besides introducing upon the stage the principal characters of the play, ought to propose the argument or subject of it: the second, to bring this upon the carpet by carrying the fable into execution: the third, to raise obstacles and difficulties: the fourth, to find remedies for these, or to raise new ones in the attempt: the fifth concludes the piece, by introducing some incident to unravel the whole affair.

ACTÆA, in botany, the name whereby Linnæus calls the christophoriana of Tournefort. See CHRISTOPHORIANA.

ACTION *games, ludi actiæ*, in roman antiquity, those instituted in commemoration of the victory at Actium.

Some will have it, that they were celebrated every third year; but Strabo, whose opinion is now generally followed, tells us, that they returned only every fifth year, and were sacred to Apollo, thence called *actius*: hence actian years were an æra, or series of years, commencing from the battle of Actium, and otherwise called the æra of Augustus.

ACTINIA, in the history of insects, a genus of sea-animals; of the order of the gymnarthria, naturally of a cylindric shape, but variable figure; the tentacula are very numerous, and are ranged in several series about the mouth, which is placed at one of the extremities of the body; these are in a continual vibratory motion, and by that means draw small animals into its mouth for food. The whole animal is equally thick in all parts, and

and about half an inch long; its tail is divided into three parts; or terminated, as it were, by three points: it is of a pale flesh colour, except the tentacula, which have a beautiful variety of colours, red, yellow, blue, and many others: it lodges itself in little cavities of rocks, and of the larger sea-plants of the stony kind, and is found on the coasts of the american islands.

There is a variety of species, differing from each other in figure, colour, &c. two whereof are represented plate V. fig. 6. n^o 1 and 2.

ACTION, *actio*, in a general sense, signifies much the same with *act*. See **ACT**. Schoolmen make several more subtle than useful distinctions of action, into univocal and equivocal, immanent and transient, &c. See **UNIVOCAL**, &c.

ACTION, in mechanics and physics, is the pressure or percussion of one body against another.

It is one of the laws of nature, that action and re-action are equal, that is, the resistance of the body moved is always equal to the force communicated to it; or, which is the same thing, the moving body loses as much of its force, as it communicates to the body moved. See the article **RE-ACTION**.

If a body be urged by equal and contrary actions or pressures, it will remain at rest. But if one of these pressures be greater than its opposite, motion will ensue towards the parts least pressed.

It is to be observed, that the actions of bodies on each other, in a space that is carried uniformly forward, are the same as if the space were at rest; and any powers or motions that act upon all bodies, so as to produce equal velocities in them in the same, or in parallel right lines, have no effect on their mutual actions, or relative motions. Thus the motion of bodies aboard a ship, that is carried steadily and uniformly forward, are performed in the same manner as if the ship was at rest. The motion of the earth round its axis has no effect on the actions of bodies and agents at its surface, but so far as it is not uniform and rectilinear. In general, the actions of bodies upon each other depend not on their *absolute*, but *relative* motion. See the article **MOTION**.

Quantity of ACTION is used to denote the product of the weight of a body into its velocity, and into the space gone through; in proportion to which body, the ac-

tion is always greater or less.

When a body is transported from one place to another, the action is the greater, in proportion to the mass, to the velocity, or rapidity of the motion, and to the space through which the body is carried.

Monf. de Maupertuis lays it down as a general principle, that "whenever any change happens in nature, the quantity of action necessary to produce this change is always the least possible." And this, he says, is a law indicating the highest wisdom.

From this general principle, and the common rule for finding a minimum by fluxions, he deduces the known laws of percussion, for hard and elastic bodies, and even the laws of rest, as he calls them; that is, of the equilibrium, or equipollency of pressures.

This ingenious author seems to think, that the laws of motion, thus deduced, afford a stronger proof for the existence of God, or of a first intelligent cause, than the other arguments commonly alledged, and deduced from the order of nature. But we apprehend, that few metaphysicians will be of his opinion. The proof of a God from the order of nature seems to depend on two principles. 1. That there is an order in nature. 2. That this order is contingent. For if this order was not contingent, but absolutely necessary, as Spinoza, and other atheists pretend, it seems that no sufficient reason, from the order of nature, could be assigned for the existence of a first intelligent cause. Now, Monf. de Maupertuis not having established the contingency of his principle of the minimum of action, his argument seems defective in this respect; not to mention others.

M^r. Euler has demonstrated, that in the trajectories described by bodies urged by central forces, the velocity, multiplied by the element of the curve, is always a minimum. Monf. Maupertuis looks on this as an application of his principle, to the motion of the planets.

ACTION in ethics, something done by a free or moral agent, capable of distinguishing good from evil.

The essence of a moral action consists in being done knowingly and voluntarily: that is, the agent must not only be able to distinguish whether it be good or bad in itself, but he must likewise be entirely free from compulsion of any kind,

and at full liberty to follow the dictates of his own understanding. Hence the actions of idiots, slaves, &c. cannot be called moral. Hence also appears the absurdity of fatalism, which undermines the very foundation of morality.

ACTION, in rhetoric, may be defined, the accommodation of the voice, but more especially the gesture of an orator, to the subject he is upon.

It is chiefly directed to the passions of the audience, over whom it has an absolute sway, in a manner commanding their assent, and exciting in their breasts such emotions as the orator wants to raise.

The surprising and almost incredible power of action, has been known at all times. Cicero tells us, "that it does not so much matter what an orator says, as how he says it." Horace, in his art of poetry, is no less explicit in setting forth its vast influence on mankind.

With those who laugh, our social joy appears;

With those who mourn, we sympathize in tears,

If you would have me weep, begin the strain,

Then I shall feel your sorrows; feel your pain.

After all, the utility and even morality of action is controverted. Is it just, say some, to force the assent of mankind by addressing their passions, without first convincing their reason? In such a case, is it not to be feared that the orator will warp them to the side he himself favours? That he will make this foible of mankind subservient to his own views? &c. On the other hand, is it not evident, that mankind stand in need of such a powerful spring to set them on action? If so, where can be the injustice in making use of it, especially in conjunction with reason and solid argument?

ACTION, in poetry, denotes much the same with the fable, or subject of an epic or dramatic poem; only that the former may be real, whereas the latter is always feigned.

It is necessary to the perfection of an action, that it be but one, that it be entire, that it be important or affecting, and that it have a suitable duration, without being interrupted. It is no breach, however, of the unity, or integrity of the principal action, that there are subordinate ones, serving to obstruct the hero's measures.

In dramatic poetry, the principal action, together with these secondary ones, are divided into five acts. See the article **ACT**.

ACTION, in a theatrical sense, is nearly the same with action among orators; only the actor adapts his action to an assumed character, whereas the orator is supposed to be in reality what his action expresses, whether joyful, grieved, &c. The perfection of theatrical action consists in imitating nature, or expressing, in a lively manner, the behaviour of a man of the assumed character and circumstances.

ACTION, in painting and sculpture, denotes the posture of a statue or picture, serving to express some passion, &c.

ACTION, in the military art, is an engagement between two armies, or between different bodies of troops belonging thereto. This term is likewise used to signify some memorable act done by an officer or commander of a body of troops.

ACTION of the mouth, in the manege, signifies a horse's champing upon the bit of the bridle, thereby emitting a rosy foam; which is looked upon as a sign of health, vigour, and mettle.

ACTION, in law, denotes either the right of demanding, in a legal manner, what is any man's due; or the process brought for recovering the same.

Actions are either criminal or civil.

Criminal actions are to have judgment of death, as appeals of death, robbery, &c. or only judgment for damage to the injured party, fine to the king, and imprisonment.

Under the head of criminal actions may likewise be ranked penal actions, which lie for some penalty or punishment on the party sued, whether it be corporal or pecuniary.

Also actions upon the statute, brought on breach of any statute, or act of parliament, by which an action is given that did not lie before; as where a person commits perjury to the prejudice of another, the injured party shall have an action upon the statute. And lastly, popular actions, so called, because any person may bring them on behalf of himself and the crown, by information, &c. for the breach of some penal statute.

Civil actions are divided into real, personal, and mixt.

Real action is that whereby a man claims a title, lands, tenements, &c. in fee, or for life, and this action is either possessory, or ancestral; possessory, where the

lands

lands are a person's own possession or seisin; ancestral, when they were of the possession or seisin of his ancestors.

Personal action, is one brought by one man against another, upon any contract for money or goods, or on account of trespass, or other offence committed; and thereby, the debt, goods, chattels, &c. claimed.

Mixt action, one lying as well for the thing demanded as against the person who has it; and on which the thing is recovered with damages for the wrong sustained; such is an action of waste, sued against a tenant for life, the place wasted being recoverable, with treble damages for the wrong done.

All actions seem to be temporary. A real action may be prescribed against, in five years after a fine levied, or recovery suffered. Writs of formedon for any title to lands in being, must be sued out within twenty years. Actions of debt, account, detinue, trover and trespass, are to be brought within six years; of assault and battery within four years; and of slander, within two years, after cause of action, and not afterwards. However, it ought to be observed, that the right of action in these cases is saved to infants, feme coverts, and persons in prison or beyond sea, &c. so as they commence their suits within the time limited after their imperfections are removed.

Actions may be brought against all persons whatever, but those who are attainted of high treason or felony, an outlawed or excommunicated person, &c. cannot bring any action till pardoned, absolved, &c. A feme covert must sue with her husband, and infants by their guardians.

ACTION upon the case, a general action which lies for the redress of wrongs and injuries done without force, and which by law are not provided against.

This at present is the most frequent of all actions, being brought in all cases where no certain form has been established; and the reason why it is called an action upon the case, is because the whole cause or case is set forth in the writ. It may be brought as well where there is another action, as where no other lies.

Action upon the case for words, is brought where a person is injured in his reputation: and for words which affect the life, office, trade, &c. or tend to the loss of preferment in marriage, or other-

wife; or to the disinheritorship or other damage of a person.

Prejudicial ACTION, otherwise called *preparatory*, one which arises from some doubt in the principal; as, where one sues his younger brother for lands descended from the father, on which it is objected to him that he is a bastard: Here this point of bastardy is to be first tried or judged, before the principal cause can proceed.

ACTION of a writ, is when a person pleads some matter by which is shewn, that the plaintiff had no cause to have the writ brought; though, perhaps, he may have another writ for the same matter. It is hence called, a plea to the action of the writ, in contradistinction from a plea to the action.

ACTION, among physicians. The actions of the human body, are divided into the vital, animal, or natural ones.

Vital actions are those, without which life could not be maintained: such is the motion of the heart and lungs.

Under animal actions are comprehended the senses, imagination, judgment, and voluntary motions, without which we could not live comfortably.

Lastly, natural actions are those which, though not so immediately necessary to life but that we may live some time at least without them, yet are absolutely necessary to our well-being: such is digestion.

ACTION, in commerce, a term used abroad for a certain part or share of a public company's capital stock. Thus, if a company has 400,000 livres capital stock: this may be divided into 400 actions, each consisting of 1000 livres. Hence, a man is said to have two, four, &c. actions, according as he has the property of two, four, &c. thousand livres, capital stock.

The transferring of actions, abroad, is performed much in the same manner as stocks are with us.

ACTIONARY, or *ACTIONIST*, in commerce, a term used among foreigners, for the proprietor of an action, or share of a public company's stock.

ACTIVE, in a general sense, denotes something that communicates motion or action to another, in which sense it stands opposed to passive. See *PASSIVE*.

Thus we say active cause, active principles, &c. The quantity of motion in the world, Sir Isaac Newton shews, must be always

always decreasing, in virtue of the vis inertiae, &c. so that there is a necessity for certain active principles to recruit it: such he takes the cause of gravity to be, and the cause of fermentation. Adding, that we see but little motion in the universe, except what is owing to those active principles.

ACTIVE principles, in chemistry, those which act of themselves, without any foreign assistance: such are mercury, sulphur, and salt, supposed to be; phlegm and earth being reckoned passive ones. Some authors will have sulphur, or fire, to be the only active principle and source of all the motion in the world.

Others again, with what propriety we shall not take upon us to say, call oil, salt, and spirit active principles, only because their parts are better fitted for motion than those of earth or water.

ACTIVE, among grammarians, an appellation given to words expressing some action, as I write, I read, &c.

These are denominated verbs, or active verbs, from the latin *verbum*, a word. See the article **VERB**.

ACTIVITY, in a general sense, denotes that faculty or power, from whence things are denominated active. See **ACTIVE**. Hence all that space, wherein any body extends its virtue or influence, is called the sphere of its activity.

ACTOR, in a general sense, signifies one who acts, or does some thing. See the articles **ACT** and **ACTION**.

ACTOR, in a theatrical sense, is a man who acts some part or character, in a play. See **ACTION** and **THEATRE**.

Actors were at first few in number, one or two persons often acting all the characters in a play. At present, however, their number is not limited; a circumstance which creates such a diversity as must greatly interest the spectators.

It is remarkable with what difference actors were treated among the antients. At Athens, they were held in such esteem, as to be sometimes pitched on to discharge embassies, and other negotiations: whereas, at Rome, if a citizen became an actor, he thereby forfeited his freedom. Among the moderns, actors are best treated in England; the French having much the same opinion of them that the Romans had.

ACTRESS, a woman who performs, or acts, some character on the stage. See the article **ACTOR**, *supra*.

Actresses, or women actors, were un-

known to the antients, among whom men always performed the part of women: and hence one reason for the use of masks among them.

Actresses are even said not to have been introduced on the English stage, till after the restoration of king Charles II. who has been charged with contributing to the corruption of our manners, by importing this usage from abroad. But this can be but partly true: the queen of James I. acted a part in a pastoral: and Pryn, in his *Histriomastix*, speaks of women actors in his time as whores; which was one occasion of the severe prosecution brought against him for that book.

ACTUAL, an appellation given to such things as exist truly and absolutely. Thus, philosophers speak of actual heat, cold, &c. in opposition to virtual or potential; divines, of actual grace, in opposition to that which is habitual. See the articles, **HEAT**, **COLD**, and **GRACE**.

ACTUAL sin, that which is committed by a person himself: it is opposed to original sin. See the article **ORIGINAL**.

ACTUARIE naues, in roman antiquity, a kind of ships deligned chiefly for expedition.

ACTUARIUS, among the antients, an officer, or rather notary, appointed to write down the proceedings of a court.

Actuarii were also officers who kept the military accounts, and distributed the corn to the soldiers.

ACTUATE, a term signifying to stir up, or put in motion: thus, to actuate a person, is to prompt him to do something.

ACTUS, in antiquity, a measure of length containing one hundred and twenty roman feet. The square of the actus was just half of the roman acre or jugerum. See the article **ACRE**.

ACULEATE, or **ACULEATED**, an appellation given to any thing that has aculei, or prickles: thus fishes are divided into those with aculeated, and not aculeated fins. See the article **FISH**.

ACULEI, in natural history, a term used for the prickles found on some animals as well as plants; also for the stings of bees.

ACULER, in the manege, is said of a horse, when working upon volts, he does not go far enough forward, at every time or motion; so that his shoulders embrace or take in too little ground, and his croupe comes too near the center of the volt. Horses are naturally inclined

clined to this fault in making demi-volts.
See the article **VOLTA**.

ACUMEN, in the antient music, a sound produced by raising the voice to a high pitch.

ACUMINA, in antiquity, a kind of military omen, taken from the points or edges of spears, swords, &c.

ACUPUNCTURE, in the chinese and japanese surgery, a method of curing several disorders, by pricking the part affected with a needle.

This operation is performed with a gold or silver-needle, which they strike into the body with their hand, or with a hammer provided for that purpose. Not only the legs, arms, and the like parts, are pricked in this manner; but likewise the head and abdomen.

They have recourse to acupuncture in the head for head-achs, lethargies, epilepsies, convulsions, diseases of the eyes, &c. and in the abdomen for colics, dysenteries, want of appetite, surfeits, &c.

ACUS, in ichthyology, the name of two distinct genuses of fishes; the one called the acus of Aristotle, and the other the acus of Bellonius, or of Oppian.

Of the former kind, called in english, the needle-fish or tobacco-pipe fish, there are two species, the larger and smaller. The larger is about a cubit long, and not thicker than a man's finger. It has two very small fins at the gills, and another at the back. Its anus is nearly in the middle of the body. See plate VI. fig. 1.

Or the latter kind, called by us the garfish, there are also two species, one with scales, and the other not. The under jaw of this last is longer than the upper one, and both are thick set with sharp teeth. It has only one back-fin, and the tail is forked. See plate VI. fig. 2.

ACUTE, an appellation given to such things as terminate in a sharp point, or edge: thus, we say an acute angle, acute-angled triangle, &c. See the articles **ANGLE** and **TRIANGLE**.

ACUTE accent, in grammar. See the article **ACCENT**.

ACUTE-angled cone. See the article **CONE**.

ACUTE diseases, among physicians, those which suddenly rise to their highest pitch, and terminate in a few days.

In this sense the word stands opposed to chronic. Dr. Quincy thinks, an acute disease may be defined, that which is attended with an increased velocity of blood.

Acute diseases are extremely dangerous,

as not affording time to administer proper medicines.

ACUTE, in music, an epithet given to sharp or shrill sounds, in opposition to those called grave.

ACUTENESS, that property of things from whence they are denominated acute. See the article **ACUTE**.

The cause or principle of the acuteness of sounds, is resolved into the greater degree of tension of the sonorous body; by virtue of which, its parts vibrate more swiftly, or make a greater number of returns in the same time. But this is not the only principle, sounds being also more or less acute, according to the species of matter, and the less or greater quantity of it. Thus a silver body yields a more acute sound than a gold one: one solid foot, than two; a shorter string gives a more acute sound than one that is longer, of the same matter, diameter, and tension.

ACUTITION, or **ACUTION**, in a general sense, signifies the same with acuteness.

ACUTITION, in grammar, the pronouncing or marking a syllable with an acute accent. See **ACCENT** or **ACUTE**.

ACUTITION, among physicians, the sharpening or increasing the force of any medicine.

ACYROLOGIA, in philology, denotes an improper word, phrase, or expression: it differs a little from the catachresis. See the article **CATACHRESIS**.

AD, a latin preposition, expressing the relation of one thing to another.

It is frequently prefixed to other words: Thus,

AD extra, among school divines, a term applied to those operations of the deity, the effect whereof terminates without the divine essence, as creation, regeneration, &c.

The operations *ad extra* are opposed to those *ad intra*, or such as are confined within the divine essence.

AD hominem, among logicians, an argument drawn from the professed belief or principles of those with whom we argue.

AD ludos, in roman antiquity, a kind of punishment, whereby the criminals entertained the people, either by fighting with wild beasts, or with each other. Barbarous diversion!

AD metalla, in roman antiquity, the punishment of such criminals as were condemned to the mines, and therefore called *metallici*. A piece of excellent policy,

policy, thus to make the punishment of rogues doubly subservient to the good of the common wealth!

AD VALOREM, among the officers of the king's revenue, a term used for such duties, or customs, as are paid according to the value of the goods sworn to by the owner. Books imported from abroad formerly paid duties *ad valorem*; instead of which bound books now pay fourteen shillings per hundred weight, and the unbound ones seven; Stat. 9. Geo. I. c. 19.

ADAGE, a short sentence or proverb, containing some wise saying, or remarkable observation.

We have a collection of greek and roman adages by Erasmus.

ADAGIO, softly, leisurely, in music, a term used to denote the slowest of all times, the grave only excepted. See the articles **TIME** and **GRAVE**.

Sometimes it is repeated *adagio adagio*, to signify a still greater retardation of time.

ADAMANT, or *Adamas*. See the next article.

ADAMAS, the adamant or diamond. See the article **DIAMOND**.

ADAMAS, or *Adamant*, is sometimes also used for other things, as the spume or scoria of gold, the highest tempered iron, the magnet, &c. See the articles **SCORIA**, **IRON**, and **MAGNET**.

ADAMI POMUM, in anatomy, a prominence in the fore part of the throat; so called from the idle notion, that a piece of the forbidden apple stuck in Adam's throat, and occasioned this tumour, which in reality is only the convex part of the first cartilage of the larynx.

ADAMIC EARTH, *terra adamica*, a name by which some call the common clay, supposed to be the adamah, or ruddy earth, of which the first man was formed.

ADAMITES, in church history, a name sometimes used for the descendants of Adam and Seth, more usually called *sethites*. See the article **SETHIANS**.

Adamites is more particularly used, by ecclesiastical writers, for a sect of heretics who went naked; pretending that mankind were restored to the original state of innocence, wherein Adam was created. They were likewise accused of holding a community of women, and of lying with them in public. The protestants and papists mutually charge each other with having adamites among them.

Pra-ADAMITES. See **PRE-ADAMITES**.

ADAR, in hebrew chronology, the twelfth month of their ecclesiastical, and the sixth of their civil, year. It has only twenty-nine days, and answers to the latter end of our February and beginning of March.

ADARCE, in the materia medica of the antients, a kind of salt found concreted about reeds and other vegetables in form of incrustations.

It was applied externally in various cutaneous disorders, as a detergent and resolver; also for the teeth.

ADARCON, in jewish antiquity, a coin mentioned in the scriptures, usually of gold. Authors are not agreed about its value, some making it the same with the golden pieces called darics, others equal only to the attic drachm, and others twice as much.

ADARTICULATION, a term used by some physicians for what is more usually called *arthrodia* and *diarthrosis*.

ADDA, a considerable river of Italy, which taking its rise in the province of Bormio, traverses the lake di Como, and afterwards passing through the Milanese, falls into the Po, a little to the west of Cremona.

ADDEPHAGIA, in a general sense, signifies gluttony or voraciousness; in which sense it is made to comprehend the *bulimia*, *pica*, *malacia*, &c.

Addephagia, in a more particular sense, is used for greediness in children, which makes them cram down new food before the old is well digested.

ADDER, in zoology, a name by which the viper is sometimes called. See **VIPER**.

Water-ADDER, in zoology, the english name of the *natrix*. See the article **NATRIX**.

ADDER-STUNG, is said of cattle when stung by adders, or bit by a hedge-hog, or shrew. For this, some use an ointment made of dragon's blood, with a little barley-meal and the white of eggs.

ADDER'S TONGUE, *opbioglossum*, in botany, a genus of the cryptogamia: class of plants, and of that order called the *filices*, without any visible flower; the fruit is an oblong, double, or distichous capsule, divided by transverse articulations into a great number of cells, containing small seeds of an oval shape. See plate VI. fig. 3. *Adder's tongue* is esteemed as a vulnerary, and prescribed either internally or externally. It is a spring plant, to be found only in April and May, and may easily be distinguished by its spike or tongue. The common people are extremely

tremely fond of it, giving the expressed juice internally for wounds, bruises, &c. or applying an ointment of it, made with lard or May-butter externally.

ADDEXTRATOIRES, among ecclesiastical writers, denote the pope's mitre-bearers; so called, according to Duncange, on account of their walking at the pope's right hand, when he rides to visit the churches.

ADDICE, or **ADZE**, a kind of crooked ax, fitted for cutting the hollow side of a board, &c.

ADDICTI, in roman antiquity; a kind of slaves who were reduced to that state, by reason they could not satisfy some creditor; whose slaves they became, till they could pay or work out the debt.

ADDICTION, *addictio*, among the Romans, was the making over goods to another, whether in the way of sale, or by sentence of court: the goods so delivered were called *bona addicta*.

Debtors were sometimes delivered over in the same manner, and thence called *servi addicti*. See the article **ADDICTI**.

ADDITAMENT, *additamentum*, a term used, by some physicians and chemists, for whatever new ingredients are added to a composition or menstruum, to render it more efficacious.

ADDITION, in a general sense; is the uniting or joining several things together; or, it denotes something added to another.

ADDITION, in arithmetic, the first of the four fundamental rules of that art, whereby we find a sum equal to several smaller ones.

The rule for addition of integers, is, to place all the numbers of a like kind under one another; that is, the units under units, tens under tens, hundreds under hundreds, &c. and singly to collect the sums of each. To do this, we begin with the units, and if their sum does not exceed 9, we set it down underneath; but if it exceeds 9, the excess only is to be set down; carrying one to the next row for every ten, and so of the other rows.

675 For example, if the sums 675 and 982 were given to be added, write
— either of them under the other,
1657 viz. units under units, tens under tens, &c. Then, beginning with the row of units, I say 2 and 5 make 7, which being less than 9, I write it underneath; after which, passing to the row of tens, I say 8 and 7 make 15, the last of which numbers, viz. 5 only is to be

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set down, and the other carried to the next row; lastly, proceeding to the row of hundreds, I say 1 carried and 9 make ten, which added to 6 make 16: this sum is set down whole, as being that of the last row; and thus the sum of both, viz. 1657, is found. See the example in the margin.

The same method will hold, where there are a great many sums to be added, as in the example annexed: for, finding the sum of the first row to be 18, I set down

8, and carry the 1 to the next
49583 row: the sum of the second row,
26259 together with the one carried, I
18041 find to be 30, and accordingly set
150 down 0, and carry 3 to the row
75 of hundreds: the sum of the third
94108 row, and the 3 carried, being 113,

I set down 1, and carry 1: the sum of the fourth row, together with the 1 carried, is 24; I set down 4, and carry 2: lastly, the sum of the fifth row, together with the 2 carried, being 9, I set it down. Hence the sum of the whole is 94108.

The demonstration of the rule of addition is very easy; depending entirely upon the notation in use, and the axiom, that the whole is equal to all the parts taken together.

ADDITION of fractions, is the finding the sum of two or more given fractions, whether vulgar or decimal.

ADDITION of vulgar fractions. See the article **FRACTION**.

ADDITION of decimal fractions is performed in the same manner as that of whole numbers, only care must be taken to place the decimal points always under each other.

Thus, in the example annexed, the sum of the first row is 3, which I set down; that of the second row, 14, whereof 4 is set down and 1 carried: and so of the rest, as expressed in the margin.

ADDITION, in algebra, is the connecting, or putting together, all the letters or numbers to be added, with their proper signs + or —. See **ALGEBRA**.

1. To add quantities that are like, and have like signs, add together their coefficients, to the sum of which prefix the common sign, and subjoin the common letter or letters. Thus,

| | |
|-----------|----------|
| To + 19a | To — 2b |
| Add + 6a | Add — 5b |
| Sum + 25a | Sum — 7b |

G

Td

| | |
|---------------|---------------|
| To $4a + b$ | To $a - 5x$ |
| Add $2a + 8b$ | Add $2a - x$ |
| Sum $6a + 9b$ | Sum $3a - 6x$ |

2. To add quantities that are like, but have unlike signs, subtract the lesser coefficient from the greater, prefix the sign of the greater to what remains, and subjoin the common letters. Thus,

| | |
|----------------|-----------------|
| To $-5a$ | To $+8b$ |
| Add $+2a$ | Add $-2b$ |
| Sum $-3a$ | Sum $+6b$ |
| To $a - 6b$ | To $4a - 8b$ |
| Add $-3a + 2b$ | Add $-4a + 8b$ |
| Sum $-2a - 4b$ | Sum $0 \quad 0$ |

The proof of this rule is easily deducible from the nature of positive and negative quantities. See the article QUANTITY. If there are more than two quantities to be added, first add the positive ones together into one sum, and then the negative, by case I; which sums are to be again added by case II. Thus,

| | |
|-----------|---------------------|
| To $+5a$ | To the sum of |
| add $-8a$ | the positive $+14a$ |
| add $+9a$ | Add that of the |
| add $-a$ | negative. $-9x$ |
| | Sum of all is $+5a$ |

3. To add quantities that are unlike, set them all down after one another, with their signs and coefficients prefixed. Thus,

| | |
|--------------------------|---------------|
| To $+4a$ | To $+a$ |
| Add $+2b$ | Add $-7x$ |
| Sum $+4a + 2b$ | Sum $+a - 7x$ |
| To $+4a - 2b$ | |
| Add $-8y + 4x$ | |
| Sum $+4a - 2b - 8y + 4x$ | |

ADDITION of *fractions*, in algebra. See the article FRACTION.

ADDITIONS, in law, denote all manner of designations given to a man, over and above his proper name and surname, to shew of what estate, degree, mystery, place of abode, &c. he is.

Additions of degree are the same with titles of honour, or dignity, as knight, lord, earl, duke, &c.

Additions of estate are yeoman, gentleman, esquire, and the like.

Additions of mystery, or trade, are carpenter, mason, painter, engraver, and the like.

Additions of place, or residence, are London, Edinburgh, Bristol, York, Glasgow, Aberdeen, &c.

These additions were ordained to prevent one man's being grieved, or molested, for another; and that every person might

be certainly known, so as to bear his own burden.

If a man is of different degrees, as duke, earl, &c. he shall have the most worthy; and the title of knight, or baronet, is part of the party's name, and therefore ought to be rightly used; whereas that of esquire, or gentleman, being as people please to call them, may be used, or not, or varied at pleasure.

A Peer of Ireland is no addition of honour here; nay, the law-addition to the children of british noblemen is only that of esquire, commonly called lord.

Writs without the proper additions, if excepted to, shall abate; only where the process of outlawry doth not lie, additions are not necessary. The addition of a parish, not in any city, must mention the county, otherwise it is not good.

ADDITION of *ratios*, the same with what is otherwise called composition of ratios. See the articles COMPOSITION and RATIO.

ADDITION, among distillers, a general term for such things as are added to the wash, or liquor, while fermenting, with a view to increase the vinosity and quantity of the spirit; or to give it a particular flavour.

Additions which the less intelligent confound with ferments, are chiefly salts, acids, aromatics, and oils. Tartar, nitre, or common salt, reduced to a fine powder; also the juice of seville-oranges, lemons, spirit of sulphur, &c. added to the liquor, serve chiefly to improve the vinous acidity of the spirit. But for increasing its quantity, or giving it a fine flavour, they use the pungent aromatics and oils. A large quantity of rectified, or any other spirit, may likewise be mixed with the liquor to be distilled; which will not only come back, but considerably increase the quantity of spirit to be procured from the distillation.

ADDITION, in heraldry, something added to a coat of arms, as a mark of honour; and therefore directly opposite to abatement. See the article ABATEMENT.

Among additions we reckon a bordure, quarter, canton, gyron, pile, &c. See the articles BORDURE, QUARTER, &c. In this manner the arms of a kingdom, or state, have been added to those of noblemen; as happened to the dukes of Boufflers and Richlieu in the late italian war, who, by a decree of the senate of Genoa, were permitted to add the ensigns of that republic to those of their families.

ADDITION, in music, a note marked on the

the right side of a note, to signify that it is to be sounded or lengthened half as much more as it would have been without such mark. See NOTE and CHARACTER.

ADDITIONAL, in a general sense, denotes something over the usual sum or quantity.

ADDITIONAL duties, those charged upon certain commodities, over and above what they were formerly obliged to pay.

ADDITIVE, in a general sense, signifies something to be added: mathematicians speak of additive ratios, astronomers of additive equations; thus

ADDITIVE ratio is used by some writers, for that whose terms are disposed to addition, that is, to composition, in opposition to subtractive ratio, whose terms are disposed to subtraction, *i. e.* to division. Suppose the line *ac* divided in the points *b* and *x*,

$\frac{a \quad b \quad x \quad c}{\quad}$

the ratio between *ab* and *bx* is additive; because the terms *ab* and *bx* compose the whole *ax*. But the ratio between *ax* and *bx* is subtractive, because *ax* and *bx* differ by the line *ab*.

ADDITIVE equations, in astronomy, those which are to be added to the sun's mean anomaly, in order to find the true one. See EQUATION, ANOMALY, &c.

ADDRESS, in a general sense, denotes the nice management of an affair, or the transacting it with great propriety and skill.

ADDRESS is, more particularly, used for a speech made to the king in the name of some considerable body of men, by way of congratulation, petition, or remonstrance.

Addresses of parliament were first set on foot under Oliver Cromwell.

ADDUCENT muscles, among anatomists, the same with those more usually called adductors. See the article ADDUCTOR.

ADDUCTION, *adductio* among anatomists, denotes the action of the muscles called *adductores*. See ADDUCTOR.

ADDUCTOR, in anatomy, a general name for all such muscles as serve to draw one part of the body towards another. Thus,

ADDUCTOR brachii is a muscle of the arm, serving to bring it towards the trunk of the body.

ADDUCTOR indicis, a muscle of the forefinger, which draws it towards the thumb.

ADDUCTOR oculi, a muscle of the eye, directing its pupil towards the nose; and

otherwise called *bibitorius*, for a like reason.

Anatomists reckon up several other adductors, as the *adductor pollicis*, the *adductor pollicis pedis*, *adductor minimi digiti pedis*, *adductor prostaticæ*, &c.

ADEA, a province of Annian, on the eastern coast of Africa, called by some Adel.

ADEB, in commerce, a weight used in Egypt, principally for weighing rice.

ADEL, in geography, the capital city of Adea. It is situated about three hundred miles south of the straits of Babelmandel.

ADELSCALC, in old writers, denotes a servant of the king.

Adelscales, among the Bavarians, seem to have been the same with royal thanes among the Saxons, and the *ministri regis* in antient charters.

ADEPTION, *ademptio*, among civilians, denotes the revocation of some donation or favour. See REVOCATION.

The ademption of a legacy may be done either in express terms, or indirectly, by disposing of it otherwise.

ADEN, a sea-port town of Arabia Felix, a little eastward of the straits of Babelmandel.

ADENANTHERA, in botany, a genus of the Decandria Monogynia class of plants, the calyx of which is a single-leaved perianthium, very small, and cut into five segments: the corolla consists of five lanceolated bell-shaped petals, the fruit is a long membranaceous compressed pod, containing several round seeds.

ADENOGRAPHY, *adenographia*, or **ADENOLOGY**, that part of anatomy, which treats of the glands. See GLAND.

ADENOSE abscess, *adenosus abscessus*, is used for a hard tubercle, difficult to be dissolved, and resembling a gland. See the article ABSCESS.

ADEPS, in anatomy, denotes the fat found in the abdomen; differing from the common fat or *pinguedo*, as being thicker, harder, and of a more earthy substance.

ADEPS, among physicians, is used in a more general sense, for all kinds of animal fat: these they prescribe for their ripening quality. See the article RIPENERS.

ADEPTS, the name given to the proficients in alchemy, particularly those who pretend to have found out the philosopher's stone, and the panacea, or universal medicine.

Alchemists will have it, that there are always twelve adepts; the places of those who die being immediately supplied by others of the fraternity.

ADEQUATE, in a general sense, something exactly corresponding with another. Thus,

ADEQUATE ideas, are those which perfectly represent all the parts and properties of the object. See the article **IDEA**.

In this sense, the idea of a figure bounded by a curve line, which returns into itself, and whose parts are all equally distant from a certain point in the middle, is an adequate idea of a circle.

All simple and abstracted ideas are adequate ones, because they represent objects as they really are: whereas those of substances are inadequate, in regard our knowledge of substances is extremely defective.

ADESSENARIANS, *adessenarii*, a sect of christians, who maintain that Jesus Christ is really present in the eucharist, though not by way of transubstantiation. See the article **TRANSUBSTANTIATION**. The adessenarians differ among themselves, some of them holding that the body of Jesus Christ is in the bread; others, that it is about the bread; others, that it is with the bread; and others, that it is under the bread. See **EUCCHARIST**.

AFFECTED equations, in algebra, those wherein the unknown quantity is found in two or more different powers: such is $x^3 - ax^2 + bx = a^2b$.

For the solution of these and other equations. See the article **EQUATION**.

ADFILIAION, *adfilatio*, a gothic custom, whereby the children of a former marriage are put upon the same footing with those of the second marriage. This is otherwise called *unio prolium*, and still retained in Germany, under the name *einkindschaft*.

ADHATODA, in botany, a genus of plants, the flower of which is perianated, consisting of one leaf divided into two lips, the upper one of which is bent backwards, and the lower one divided into three segments; the pistil, which is fixed into the lower part of the flower, in the manner of a nail, finally becomes a club-fashioned fruit, or capsule, flat, and divided into two cells, containing several small, compressed, and heart-like seeds. See plate VI. fig. 4.

This plant is called by Linnæus *Justicia*: for the characters of which, according to that botanist's system, see **JUSTICIA**.

ADHESION, in physiology, is used to denote the sticking together of two bodies.

The adhesion of leaden balls is so very considerable, that with two (not weighing above a pound each, nor touching

upon more than $\frac{1}{30}$ of a square inch surface) above one hundred and fifty pounds weight have been raised. In order to do this, the surfaces by which they touch must be finely planed, with the edge of a sharp penknife, and equally pressed together with a considerable force, with a gentle turn of the hand at the same time; and thus two common leaden bullets will adhere so firmly together, as to require upwards of fifty pounds weight to separate them. In polished surfaces that are very hard, as glass, brass, &c. it is impossible to bring the bodies into such close contact as to cohere without the interposition of water, or something humid to fill the pores by expelling the air contained therein, which prevents the planes coming together while dry; the humidity in this case proves a cement, which holds the planes together by all its force of attraction on either side.

Muschenbroeck has given many curious experiments on the adhesion of bodies, which he attributes to attraction. See the article **ATTRACTION**.

ADHESION, among logicians, denotes the maintaining some tenet, merely on account of its supposed advantage, without any positive evidence for its truth.

ADHESION, in medicine and anatomy. There are frequent instances of the adhesion of the lungs to the pleura and diaphragm, which occasions many disorders. We also read of adhesions of the intestines of the dura mater to the cranium, &c.

ADJACENT, an appellation given to such things as are situated near, or adjoining to each other: thus we say, an adjacent angle, an adjacent country, &c.

ADIANTUM, *maidenhair*, in botany, a genus of the cryptogamia class of plants, and of that order called the filices, the characters of which are not perfectly ascertained, having no visible flower; the seeds are contained in spherical capsules, placed in the sinuses and folds of the leaves, and surrounded each with an elastic ring, which contracting bursts the capsule and scatters the minute seeds: besides, as the leaves of all the species of maidenhair have one general appearance, it is easy to distinguish them from other plants of the fern-kind. See plate VII. fig. 1.

Adiantum is greatly esteemed as a pectoral, and gives name to a synup, much used in that intention.

ADIAPHORISTS, or **ADIAPHORITES**, in church history, names given to the moderate Lutherans, in the sixteenth century. The name imports lukewarmness, or indifference;

Fig. 1. ACUS.



Fig. 2. ACUS of OPPIAN.



Fig. 3. ADDERS-TONGUE.

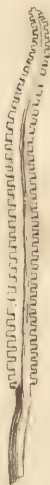


Fig. 4. ADHATODA.





difference; being compounded of the privative *a* and *diaphores*, different.

ADIAPHOROUS, an epithet given by Mr. Boyle to a spirit distilled from tartar and some other vegetable bodies: it is said to be neither acid nor urinous, and in many respects different from any other spirit.

ADJECTIVE, in grammar, a word expressing some quality, or other accident, of the substantive with which it is joined: thus in the phrase, pure gold, the word pure is an adjective, shewing the quality of the gold.

When the quality is the subject whereof we speak it becomes a substantive: thus if I say, good is always to be chosen, the word good is a substantive; but in the phrase, Peter is a good man, the word good is evidently an adjective, expressing the character of Peter.

ADIGE, a great river of Italy, which, taking its rise in Tyrol, runs southward by Trent, then eastward by Verona, and at last falls into the gulph of Venice northwards of the mouth of the river Po.

AD INQUIRENDUM, in law, a writ commanding inquiry to be made about something connected with a cause depending in the king's courts; as of bastardy for instance.

ADJOINING, in a general sense, denotes the same with adjacent. See **ADJACENT**.

ADJOURNMENT, in law, the putting off a court, or meeting, to another time or place. Thus, adjournment *in eyre* is the appointment of a certain day, when the justices in eyre are to meet again.

Adjournments of parliament differ from prorogations, in being not only for a shorter time, but also in regard each house has the privilege of adjourning itself. See the article **PROROGATION**.

ADIPOSE, in a general sense, denotes something belonging to the fat of the body.

The term adipose is chiefly used by physicians and anatomists, in whose writings we read of adipose cells, adipose ducts, adipose membranes, adipose vessels, &c.

ADIRBEITZAN, a province of Persia, situated on the western shore of the caspian sea: it makes part of the antient Media.

ADIT, *aditus*, in a general sense, signifies the passage to, or entrance of any thing. Thus we read of an adit of a mine, adit of a theatre, adit of ships, &c. See the articles **MINE**, **THEATRE**, &c.

ADJUDGING, or **ADJUDICATION**, in law, the determining a cause in favour of a person. This term is, more particularly, used for the transferring the property of a

thing sold by auction to the highest bidder.

ADJUNCT, *adjunctum*, among philosophers, something added to another, to which it does not naturally belong: thus water in a sponge, is an adjunct to it; so are clothes to a man.

Adjuncts are what we commonly call circumstances, these, in ethics, are commonly reckoned seven, *quis, quid, ubi, quibus auxiliis, cur, quomodo, quando*.

ADJUNCTS, in rhetoric, a denomination given to all words added with a view to increase the force of the discourse: such are adjectives, attributes, epithets, &c.

ADJUNCT is also used for a colleague, or assistant. Thus,

Adjunct Gods, in heathen theology, were a kind of inferior deities, whose office it was to assist the superior gods: such were Mars, Bellona, and Nemesis accounted.

ADJUNCTS, in the Paris academy of sciences, are a set of members attached to the study of some particular science. They are twelve in number; two for geometry, two for astronomy, two for anatomy, two for mechanics, two for chemistry, and two for botany. See the article **ACADEMY**.

ADJUNCTION, the act of joining several things together.

There are different kinds of adjunction; as by adhesion, opposition, imposition, &c.

AD JURA REGIS, in law, a writ which lies for a clerk presented to a living by the king, against those who endeavour to eject him, to the prejudice of the king's title.

ADJURATION, that part of exorcism which consists in commanding the evil spirit, in the name of God, to depart out of the possessed person, or to answer some question.

ADJUTAGE, or **AJUTAGE**, in hydraulics, the tube fitted to the mouth of a jet d'eau.

It is through the adjutage that water is played, and directed into any desired figure; so that the great diversity of fountains consists chiefly in the different structure of their adjutages. See **FOUNTAIN**.

ADJUTANT, in the military art, an officer whose business it is to assist the major, and therefore sometimes called the aid major. See the article **MAJOR**.

Each battalion of foot, and regiment of horse, has an adjutant, who receives the orders every night from the brigade-major; which, after carrying them to the colonel, he delivers out to the serjeants. When detachments are to be made, he gives the number to be furnished by each company, and assigns the hour and place

of rendezvous. He also places the guards, receives and distributes the ammunition to the companies; and, by the major's orders, regulates the price of bread, beer, &c. Adjutant is sometimes used, by the French, for an aid de camp. See *Aid de camp*.

ADJUTANTS *general*, among the jesuits, a select number of fathers, who reside with the general of that order: they have each a province or country assigned them, as England, Germany, &c. and their business is to inform the father general of state occurrences in such countries.

ADJUTORIUM, among physicians, is used for a medicine prescribed along with another more efficacious one; and, particularly, for an external application, after the proper use of internal medicines.

ADJUTORIUM, in anatomy, a name sometimes given to the humerus, or shoulder-blade. See the article *HUMERUS*.

ADLE eggs, such as have not been impregnated by the cock. See the article *EGG*.

ADLEGATION, *adlegatio*, in the customs of Germany, a right claimed by several princes of that empire, to send plenipotentiaries conjunctly with those of the emperor, to all negotiations wherein the empire in general is concerned.

The emperor disputes this privilege of adlegation, to the princes of the empire; but allows them that of legation, or sending ambassadors about their own private affairs. Hence adlegation differs from legation, which is the right of sending ambassadors on a person's own account.

ADLOCUTION, *adlocutio*, in roman antiquity, signifies the speech made by generals to their army, in order to rouse their courage before a battle.

ADMANUENSES, in our old law books, a term denoting laymen, who swore by laying their hands on the book: whereas the clergy were forbid to swear on the book, their word being deemed equal to an oath.

ADMEASUREMENT, in law, a writ for adjusting the shares of something to be divided. Thus, admeasurement of dower takes place, when the widow of the deceased claims more as her dower than what of right belongs to her. And, admeasurement of pasture may be obtained, when any of the persons who have right in a common pasture, puts more cattle to feed on it than he ought.

ADMINICLE, *adminiculum*, in our old law books, is used for aid, help, or support.

ADMINICLE, in the french jurisprudence, signifies the beginning or first sketch of a proof.

ADMINICLES, among antiquarians, denote the attributes or ornaments wherewith Juno is represented on medals.

ADMINICULATOR, in church-history, an officer otherwise called advocate of the poor. See the article *ADVOCATE*.

ADMINISTRATION, in a political sense, denotes, or ought to denote, the attendance of the trustees of the people on public affairs; but, more particularly, administration is used for the executive part of the government, which is said to be good or bad, according as the laws are duly enforced, and justice done the subjects. See the article *GOVERNMENT*.

ADMINISTRATION, in law, the office of an administrator. See *ADMINISTRATOR*. Whenever a man dies intestate, letters of administration are taken out in the prerogative court.

ADMINISTRATION is also used for the management of the affairs of a minor, lunatic, &c.

ADMINISTRATION, among ecclesiastical writers, denotes the power wherewith a parson is invested; and that as well in regard to the temporalities of his cure, as to its spiritualities, *viz.* the power of excommunicating, of administering the sacraments, &c.

ADMINISTRATION, among anatomists, denotes the art of properly dissecting the parts of the human body, and particularly the muscles.

ADMINISTRATION, in commerce, a regulation at Calao, a city of Peru, obliging all ships allowed to trade on the coast, to unload their european goods, and pay certain duties.

ADMINISTRATOR, in law, the person to whom the goods, effects, or estate of one who died intestate, are entrusted; for which he is to be accountable, when required.

The bishop of the diocese where the party dies, is regularly to grant administration: but if the intestate has goods in several dioceses, administration must be granted by the archbishop in the prerogative court. The persons to whom administration is granted, are a husband, wife, children, whether sons or daughters, the father or mother, brother or sister, and, in general, to the next of kin, as uncle, aunt, cousin; then to a creditor.

An action lies for and against an administrator, as for and against an executor; only that he is accountable no farther, than to the value of the goods.

ADMINISTRATOR is also used in several other senses, as for an advocate of a church;

church; for a person appointed to receive and manage the revenues of an hospital or religious house; for a prince who enjoys the revenues of a secularizing bishopric; and, lastly, for the regent of a state during a minority, or a vacancy of the throne: in this last sense, we say, the administrator of Sweden, of Wirtemberg, &c.

ADMINISTRATIVE, properly denotes a power held in right of some other person or persons.

ADMINISTRATRIX, a female, or woman who acts as administrator. See the article **ADMINISTRATOR**.

ADMIRAL, *admirallus* or *admiralis*, in maritime affairs, a great officer, who commands the naval forces of a kingdom or state, and decides all maritime causes. There are several opinions with regard to the origin and denomination of this important officer, whom we find established in most maritime kingdoms. Some will have it that both the name and dignity are derived from the Saracens; for Admiral, in the Arabian language, signifies a prince or chief ruler; and therefore the chief commander of the navy was called by this name, as a mark of dignity and honour. And it must be observed; in favour of this opinion, that there are no instances of admirals in this part of the world, before the year 1284, when Philip of France, who had attended St. Lewis to the wars against the Saracens, created an admiral. Others borrow it from the Greeks, the captain of the seas, under the emperor of Constantinople, being called ἀρχηγός, which is derived from ἄρχω, salt-water, and ἄρχω, chief; because his jurisdiction lay on the sea. But this officer was not invested with the supreme administration of naval affairs, being subordinate to the *dux magnus*, or grand general.—It is uncertain when the term was introduced among us, but the first mention of it is during the reign of Edward I.

Lord High ADMIRAL of Great Britain, called in some antient records, *Capitaneus Marinorum*, is judge, or president, of the court of admiralty. He has the management of all maritime affairs, and the government of the royal navy, with power of deciding in all maritime causes, both civil and criminal; he judges of all things done upon, or beyond the sea, in any part of the world; upon the sea coasts, in all ports and havens, and upon all rivers, below the first bridge, from the sea. From him, vice-admirals, rear-

admirals, and all other officers in the navy, receive their commissions: He also appoints the judges for his court of admiralty, and may imprison, release, &c. In short, this is so great an office, with regard to trust, honour, and profit, that it has usually been given to princes of the blood, or the most eminent persons among the nobility.

For some time past, we have had no lord high-admiral in Britain; that office being executed by a certain number of commissioners, called lords of the admiralty. See the article **ADMIRALTY**.

This term also denotes the commander in chief of a single fleet or squadron; or, in general, any flag officer whatever.

In the british navy, besides the admiral who commands in chief, there are the vice-admiral who commands the second squadron, and the rear-admiral, who commands the third squadron. The admiral carries his flag at the main-top-mast-head; the vice-admiral at the fore-top-mast-head; and the rear-admiral, at the mizen-top-mast-head. See the article **FLAG**.

Vice-ADMIRAL likewise denotes an officer invested with the jurisdiction of an admiral, within a certain county or district.

There are upwards of twenty such vice-admirals in Great-Britain; but an appeal lies from their sentence, or determination, to the admiralty-court in London. In France, the admiral is one of the great officers of the crown, general of the marine, and of all the naval forces of the kingdom. From him the captains and masters of trading vessels are obliged to take their licences, passports, commissions, and safe-conducts.

The tenth of all prizes belongs to him, and the whole of all fines adjudged in the courts of admiralty. He also has the duty of anchorage, tonnage, &c.

ADMIRAL is also an appellation given to the most considerable ship of a fleet of merchant-men, or the vessels employed in the cod-fishery of Newfoundland.

This last has the privilege of choosing what place he pleases on the sandy shore, to dry his fish. He also gives proper orders, and appoints the fishing places to those who come after him; and as long as the fishing-season continues, he carries a flag on his main-mast.

ADMIRAL, in conchyliology, the name of a beautiful shell of the voluta-kind, much admired by the curious. See **VOLUTA**. There are four species of this shell, viz. the

the grand admiral, the vice-admiral, the orange-admiral, and the extra-admiral.

The first is extremely beautiful, of an elegant white enamel, variegated with bands of yellow, which represent, in some measure, the colours of the flags in men of war. It is of a very curious shape, and finely turned about the head, the clavicle being exerted; but its distinguishing character is a denticulated line; running along the center of the large yellow band: by this it is distinguished from the vice-admiral, the head of which is also less elegantly formed. See plate VII. fig. 2. where A represents the admiral, B the vice-admiral.

The orange-admiral has more yellow than any of the others, and the bands of the extra-admiral run into one another.

ADMIRALTY, properly signifies the office of lord high-admiral, whether discharged by one or several joint commissioners, called lords of the admiralty.

In Holland there are five admiralties; boards, or chambers, composed of the deputies of the nobles, the provinces, and towns, who have the care of fitting out fleets, and, in general, of all maritime affairs.

ADMIRALTY-Court, or court of admiralty; in the british polity, a sovereign court, held by the lord high-admiral, or the commissioners of the admiralty.

This court has cognizance in all maritime affairs, civil as well as criminal. All crimes committed on the high-seas, or in great rivers, beneath the bridge next the sea, are cognizable only in this court; which, by statute, is obliged to try the same by judge and jury. But in civil causes, it is otherwise, these being all determined according to the civil law; the reason whereof is, because the sea is without the jurisdiction of the common law. In case any person be sued in the admiralty court, contrary to the statutes, he may have the writ of *superfedeas* to stop farther proceedings, and also an action for double damages against the person suing.

Subordinate to this court, there is another of equity called court-merchant; wherein all causes between merchants are decided, agreeable to the rules of the civil law.

ADMIRATION, in a general sense, signifies an expression of wonder at some excellence; and sometimes the astonishment, conceived at some extraordinary event.

Grammarians have a character for expressing this affection, or state of mind, call-

ed a point of admiration, and marked thus (!).

ADMISSION, *admissio*, among ecclesiastical writers, denotes the act of a bishop's admitting, or allowing a clerk to be able, or qualified for serving a cure.

This is done after examination, by pronouncing the formula *admitto te habilem*. If any person presume to be admitted, who has not episcopal ordination, he shall forfeit 100*l*.

ADMITTENDO clericò, a writ granted to a person who has recovered his right of presentation in the common pleas; by which the bishop, or metropolitan, is ordained to admit his clerk. See the article **ADMISSION**.

ADMITTENDO in socium, a writ associating certain persons, usually knights, and other gentlemen of the county, to the justices of assize already appointed.

ADMONITION, in church-history, a part of discipline, which consists chiefly in warning an offender of the irregularities he is guilty of, and advising him to mend his manners.

By the antient canons, nine admonitions were required before excommunication. See the article **EXCOMMUNICATION**.

ADMONITIO justum, among the Romans, a military punishment, not unlike our whipping, only that it was performed with vine branches.

ADMORTIZATION, in the feudal customs, the reducing the property of lands, or tenements to mortmain. See the article **MORTMAIN**.

ADNAME, among grammarians. See the article **ADNOUN**.

ADNASCENTIA, among gardeners. See the article **ADNATA**.

ADNATA, in anatomy, one of the tunics or coats of the eye, otherwise called conjunctiva and albuginea.

It is the same part with what is called the white of the eye, formed by the tendinous expansions of the muscles which move the eye. See the article **EYE**.

ADNATA, or **ADNASCENTIA**, among gardeners, terms used for such off-sets, as, by a new germination under the earth, proceed from the lilly, narcissus, hyacinth, and other flowers; and afterwards grow to the roots. These by the French are called *cayeux*.

ADNATA is also a term used for such things as grow upon animal or vegetable bodies, whether inseparably, as hair, wool, horns, &c. or accidentally, as the several epistichal plants,

ADNOUN,

ADNOUN, or **ADNAME**, *adnomen*, terms sometimes used to denote an adjective. See the article **ADJECTIVE**.

AD-OCTO, a phrase used by antient philosophers, importing the highest degree of perfection, by reason they reckoned none above the eighth.

ADOLESCENCE, *adolescētia*, the flower of a man's youth, commencing from his infancy, and terminating at his full stature or manhood.

This period of human life is commonly computed from fifteen to twenty-five years of age. Among the Romans, it was reckoned from twelve to twenty-five, in boys; and from twelve to twenty-one in girls.

ADONAI, one of the names of God used in the scriptures, and properly signifying *my lords*, in the plural, as *adoni* does *my lord*, in the singular number.

ADONIA, in antiquity, festivals kept in honour of Venus, and in memory of her beloved Adonis.

The adonia lasted two days, on the first of which the images of Venus and Adonis were carried with great solemnity, in manner of a funeral; the women crying all the while, tearing their hair, and beating their breasts. On the second, changing their note, they sung his praises, and made rejoicings, as if Adonis had been raised to life again.

The adonia were celebrated by most antient nations, as Greeks, Egyptians, Syrians, Lycians, &c. The prophet Ezekiel, c. viii. ver. 14. is thought to mean these festivals.

ADONIC, in antient poetry, a kind of verse consisting of a dactyle and spondee or trochee, marked thus — *uv* | — — or — *uv* | — *uv*, as *felix resubst*.

This kind of verse had its name adonic, on account of its being originally used in the lamentations for Adonis. However, its principal use among poets, is to serve as a conclusion to each strophe of saphic verse.

ADONIDES, in botany, an appellation given to such botanists as have given descriptions or catalogues of the plants cultivated in some particular place.

ADONIS, **PHEASANT'S EYE**, or **RED MAITHS**, in botany, a genus of the polyandria polygynia class of plants, the calyx of which is a perianthium composed of five obtuse, hollow, somewhat coloured and deciduous leaves; the corolla consists of five oblong obtuse beautiful petals; and sometimes there are more

than five; there is no pericarpium; the receptacle is oblong, spicated, and holds five series of seeds; the seeds are numerous, irregular and angular, gibbous at the base, and their apex reflex and prominent.

ADOPTIANI, in church history, a sect of heretics, who maintained that Christ, with respect to his human nature, was not the natural, but adoptive son of God.

ADOPTION, *adoptio*, a solemn act, whereby one man makes another his heir; investing him with all the rights and privileges of a son.

Adoption was in frequent use among the Greeks and Romans, who had many regulations concerning it. The Lacedemonians, in order to prevent inconsiderate adoptions, had a law, that they should be transacted, or at least confirmed, before their kings; at Athens, slaves, madmen, and persons under age, were incapable of adopting; and at Rome, adoptions were confirmed before the pretor, in an assembly of the people, or by a rescript of the emperor.

Adoption, being chiefly designed for the comfort of those who had no children of their own, was looked upon as a kind of imitation of nature. Accordingly, young men were not permitted to adopt their elders; on the contrary, it was necessary that the adopter should be eighteen years older than his adopted son, to give an appearance of probability of his being the natural father.

Children, thus adopted, were invested with all the privileges, and obliged to perform all the duties of natural children, even to the assuming the names of the person who adopted them; and being thus provided for in another family, they ceased to have any claim of inheritance, or kindred, in the family they had left, unless they first renounced their adoption; which, by Solon's laws they were not permitted to do, till they had begotten children to bear the name of their adopted father.

On the other hand, the person who had once adopted children, was not permitted to marry afterwards, without express leave from the magistrate; whom it was usual to petition for such a licence, in case the adopted children acted an ungrateful part.

Among the Romans, before adoption could take place, the natural father was obliged to renounce all authority over his son, and with great formality con-

sent that he should be translated into the family of the adopter. The adoption of a person already free was called *adrogation*.

The ceremonies of adoption being various, have given rise to a great many different kinds of it: thus, we read of adoption by testament, when a man adopted another by his last will; adoption by arms, or the presenting the adopted son with a suit of armour; adoption by cutting off the hair; adoption by matrimony, or the adopting the children of a wife by a former husband, &c.

ADOPTION, in a theological sense, denotes an act of God's free grace, whereby those who believe in Christ are accounted the children of God, and entitled to a share in the inheritance of the kingdom of heaven.

ADOPTIVE, in a general sense, signifies something adopted. Thus, we say, adoptive children, an adoptive book, &c. This last is the title given by Menage to a book of elegies, or verses addressed to him.

ADOPTIVE arms, in heraldry, those enjoyed by the concession of another, which the adopter is obliged to marshal with his own, as being the condition of some honour or estate left him.

ADOPTIVE is sometimes also used for borrowed or foreign: thus we say, adoptive hair, adoptive goods, &c.

Of adoptive hair, are made all manner of wigs, têtes, &c. at present in such universal use.

Besides their domestic gods, the Romans had a multitude of adopted ones, borrowed from foreign nations.

ADORATION, *adoratio*, denotes the act of worshipping God, or a being supposed to be God.

The word comes from *ad*, to; and *os*, *oris*, the mouth, and imports, to kiss the hand, this being universally acknowledged to be a mark of great respect.

Among the Jews, adoration consisted in kissing the hands, bowing, kneeling, and, even prostration. Hence, in their language, the word kissing is used for adoration. As to the ceremony of adoration among the Romans, it was performed with the head veiled, or covered; the devotee applying his right-hand to his lips, the fore-finger resting on the thumb, which was erect; and then bowing, he turned himself round from left to right. The Gauls, on the contrary, thought it more religious to turn from

right to left; and the Greeks, to worship with their heads uncovered. The christians follow the grecian rather than the roman mode, by uncovering when they perform any act of adoration.

Divines speak of a great many kinds of adoration: thus, we read of supreme adoration, or that which is paid immediately to God; of subordinate adoration, rendered to inferior beings; of absolute adoration, or that paid to a being on account of its own perfections: this is opposed to relative adoration, or that paid to an object, as belonging to, or representing another.

ADORATION is also used, in a civil sense, for any extraordinary homage or respect paid by one man to another.

The Persians adored their kings, by falling prostrate before them, striking the earth with their fore-heads, and kissing the ground. This was a piece of servility, which Conon, a nobleman of Athens, refused to comply with, when introduced to Artaxerxes; neither would the philosopher Calisthenes perform it to Alexander the great, as judging it impious and unlawful.

The roman emperors were adored, by bowing or kneeling at their feet, laying hold of their purple robe, and immediately withdrawing the hand, and kissing it.

Adoration is more particularly used, for the ceremony of paying homage to the pope, by kissing his feet; which not only the people, but the greatest prelates, and even princes make no scruple of performing. Protestants have hence taken occasion, and not without reason, to charge the popes with excessive pride, and even impiety.

Adoration is still more particularly used, for a method of electing a new pope, when the cardinals, instead of proceeding in the usual way, unanimously fall down and adore one of their own number.

Adoration is the last ceremony of a regular election, but here it is the election itself, or rather supercedes it.

Perpetual ADORATION, in the church of Rome, a kind of religious society, frequent in the popish countries; which consists of devout persons, who, by regularly relieving each other, keep constantly praying before the eucharist both day and night.

ADOREA, in roman antiquity, a word used in different senses; sometimes for all manner of grain; sometimes for a kind

kind of cakes made of fine flour, and offered in sacrifice; and, finally, for a dole or distribution of corn, as a reward for some service: whence, by metonymy, it is put for praise or rewards, in general.

ADOSULATION, a term used by Grew for a kind of impregnation, effected by the external contact of the parts of generation, without intromission. Such he supposes that of several birds and fish, as well as of plants, which is effected by the falling of the farina fecundans on the pistil.

ADOSSE'E, in heraldry, a term used for two rampant animals, placed back to back.

It also denotes any other figure, as axes, keys, &c. placed with their heads facing different ways.

ADOUR, the name of three rivers of France, in the province of Gascony; which, arising from different sources, afterwards unite, and fall into the bay of Biscay below Bayonne.

ADOXA, in botany, a genus of the octandria tetragynia class of plants, the corolla of which is plain, and consists of a single petal, divided into four oval acute segments, longer than the cup; the fruit is a globose berry, situated between the calyx and corolla; the calyx adheres to its under-part; the berry is umbilicated, and contains four cells; the seeds are single and compressed. This is the fructification of the terminatory flower, the lateral ones all add a fifth to the number of the parts.

AD PONDUS OMNIUM, among physicians, denotes, that the last-mentioned ingredient ought to weigh as much as all the rest put together.

ADQUISITUS, in ancient music, a name given by the Romans to the note called by the Greeks *proslambanomenos*.

AD QUOD DAMNUM, in law, a writ which ought to be issued before the king grants certain liberties, as a fair, market, or the like; ordering the sheriff to enquire by the country what damage such a grant is like to be attended with.

This writ is also issued, for making the same enquiry with respect to lands granted to religious houses, or corporations; for turning and changing of highways, &c.

ADRACANTH, the same with tragacanth. See the article **TRAGACANTH**.

ADDRESS, or **ADDRESS**. See **ADDRESS**.

ADRIA, a small town of Italy, about twenty-six miles south of Venice, formerly a bishop's see, which is now translated to Rovigo.

It was from this town that the adriatic sea, or gulph of Venice, took its name.

ADRIANOPLE, a great and populous city of Turkey in Europe, situated in a fine plain, on the river Marizam, about 150 miles N. W. of Constantinople. It is eight miles in circumference, and frequently honoured with the grand signior's presence. East longitude $26^{\circ} 30'$ N. latitude 42° .

ADRIATIC sea, the same with the gulph of Venice, being a very considerable branch or part of the Mediterranean, reaching from Otranto to Venice, and washing the northern coast of Italy.

ADROGATION, in antiquity, that kind of adoption, which took place in regard to a person already his own master. See the article **ADOPTION**.

It was so called on account of a question put to both the parties; to the adopter, whether he would take such a person for his son; and to the adopted, whether he consented to become such a person's son?

ADSCRIPTS, a term used by some mathematicians for the natural tangents. See the article **TANGENT**.

ASIDELA, in antiquity, the table at which the flamens sat during the sacrifices. See the article **SACRIFICE**.

ADSTRICITION, among physicians, is used to denote the too great rigidity and closeness of the emunctories of the body, particularly the pores of the skin; also for the styptic quality of medicines. See the article **ASTRINGENTS**.

AD TERMINUM *qui prateriit*, in law, a writ of entry, that lies for the lessor or his heirs, if after the expiration of a term for life or years, granted by lease, the tenant or other occupier of the lands, &c. with-holds the same from such lessor.

ADVANCE, in the mercantile stile, denotes money paid before goods are delivered, work done, or business performed. To pay a note of hand, or bill, by advance, is to pay the value before it becomes due; in which case it is usual to allow a discount for the time it is pre-advanced.

ADVANCED, in a general sense, denotes something posted or situated before another: Thus, advanced ditch, or moat, in fortification, is that drawn round the glacis or esplanade of a place. See **MOAT**.

ADVANCED-guard, or **VANGUARD**, in the art of war, denotes the first line or division of an army, ranged, or marching in order of battle; or it is that part which is next the enemy, and marches first towards them. See the article **ARMY**.

Advanced-guard is more particularly used for a small party of horse stationed before the main-guard. See the article **GUARD**.

ADVANCER, among sportsmen, denotes one of the starts, or branches of a buck's attire, between the back antler, and the palm.

ADUAR, in the arabian and moorish customs, a kind of ambulatory village, consisting of tents; which these people remove from one place to another, as suits their convenience.

ADVENT, in the calendar, denotes the time immediately preceding Christmas. It includes four sundays, or weeks, which begin either on St. Andrew's day, or on the sunday before or after it.

The term advent, *adventus*, properly signifies the approach or coming on of the feast of the nativity. See **NATIVITY**. During advent, and to the end of the octaves of epiphany, the solemnizing of marriage is forbid, without a special licence. See the article **MARRIAGE**.

ADVENTITIOUS, an appellation given to whatever accrues to a person or thing from without. Such are sparry incrustations upon wood, &c.

ADVENTITIOUS, among civilians, denotes all such goods as are acquired accidentally, or by the liberality of a stranger, &c.

ADVENTITIOUS fossils, the same with extraneous or foreign ones, found imbedded in other fossils: such are shells, bones, &c. in stone.

AD VENTREM *inspicendum*, in law, a writ by which a woman is to be searched whether she be with child by a former husband, on her withholding of lands from the heir.

ADVENTURE, in a general sense, denotes some extraordinary event, especially such as falls out casually.

ADVENTURE also denotes a hazardous, or difficult undertaking, the success whereof depends on something not in the power, or under the controul of the adventurer; in which sense, sending goods to sea, fighting a battle, &c. are great adventures.

Bill of ADVENTURE, among merchants, a writing signed by a merchant, testifying that the goods mentioned in it to be shipped on board a certain vessel, belong to another person, who is to run all hazards; the merchant only obliging himself to account to him for the produce of them, be what it will.

ADVENTURER, in a general sense, denotes one who hazards something. See the article **ADVENTURE**.

By statute 13 Geo. II. c. 4. adventurers may obtain a charter for whatever settlements in America they shall take from the enemy.

ADVENTURERS, or *merchant-ADVENTURERS*, a company of merchants erected for the discovery of lands, trades, &c. See the article **COMPANY**.

ADVERB, *adverbium*, in grammar, a word joined to verbs, expressing the manner, time, &c. of an action: thus, in the phrase, *it is conducive to health to rise early*, the word *early* is an adverb: and so of others.

Adverbs are also added to nouns, and even to other adverbs, in order to modify, or ascertain their meaning; whence some grammarians call them modifications: thus, in the phrase, *he prayed very devoutly*, the word *devoutly* qualifies the action of prayer, and the word *very* does the same in regard to devoutly.

Adverbs, though very numerous, may be reduced to certain classes; the principal of which are those of order, of place, of time, of quantity, of quality, of manner, of affirmation, doubting, comparison, interrogation, diminution, &c.

ADVERBIAL, something belonging to adverbs: thus we say, an adverbial phrase, number, &c. See **ADVERB**.

Thus, over against, by way of, &c. are adverbial expressions; and once, twice, thrice, &c. adverbial numbers.

ADVERSARIA, among the antients, was a book of accounts, not unlike our journals, or day-books.

ADVERSARIA is more particularly used, among men of letters, for a kind of common-place-book, wherein they enter whatever occurs to them worthy of notice, whether in reading or conversation, in the order in which it occurs: a method which Morhof prefers to that of digesting them under certain heads. See the article **BOOK**.

Adversaria is also used for books containing various observations, remarks, &c. or even a commentary upon some author or writing.

ADVERSARY denotes a person who is an enemy to, or opposes another.

Adversary, in a law sense, is used indifferently for either of the contending parties, considered as opposing the other.

ADVERSATIVE, in grammar, a word expressing some difference between what goes before and what follows it. Thus,

in the phrase, *he loves knowledge but has no application*, the word *but* is an adversative conjunction; between which and a disjunctive one there is this difference, that the first sense may hold good without the second opposed to it, which is otherwise in regard to disjunctive conjunctions. See the article **DISJUNCTIVE**.

ADVERSATOR, in antiquity, a servant who attended the rich in returning from supper, to give them notice of any obstacles in the way, at which they might be apt to stumble.

ADVERTISEMENT, in a general sense, denotes any information given to persons interested in an affair.

ADVERTISEMENT is more particularly used for a brief account of an affair inserted in the daily or other public papers, for the information of all concerned, or who may find some advantage from it.

Advertisements of this kind are certainly of great use to the public. Traders, ship-masters, companies, and every man, of what rank or condition soever, find their advantage in them. Nay, as the best things are capable of being abused, even sharpers, quacks, and a long &c. of designing rogues make use of them to impose upon the credulous and unwary.

ADVICE, or *letter of ADVICE*, a letter missive, by which a merchant, or banker, informs his correspondent, that he has drawn a bill of exchange, that his debtors affairs are in a bad state, or that he has sent a quantity of merchandize, whereof the invoice is usually annexed. See the article **INVOICE**.

A letter of advice for the payment of a bill of exchange should mention the name of the person for whose account it is drawn, the day, month, and year; the sum drawn for; the name of him from whom the value is received; and the person's name to whom it is payable.

For want of such advice, it is very allowable to refuse accepting a bill of exchange.

ADULT, in a general sense, an appellation given to any thing arrived at maturity: thus we say an adult person, an adult plant, &c.

ADULT, among civilians, denotes a youth between fourteen and twenty-five years of age.

ADULTERATION, in a general sense, denotes the act of debasing, by an improper mixture, something that was pure and genuine. Thus, adulteration of coin, is the casting or making it of a

metal inferior in goodness to the standard, by using too great a proportion of alloy. This is a crime which all nations have made capital.

ADULTERATION, in pharmacy, is the using ingredients of less virtue in medicinal compositions, to save expence; a practice with which the dealers in medicines and drugs are but too well acquainted.

ADULTERATION, among distillers, vintners, &c. is the debasing of brandies or wines, by mixing them with some improper liquor.

By stat. 1 W. & M. c. 34. whoever sells adulterated wine, is to forfeit three hundred pounds.

ADULTERER, denotes a man who is guilty of adultery. See **ADULTERY**.

ADULTERESS, a female adulterer, or woman who commits adultery.

ADULTERINE, in a general sense, denotes any thing which has been adulterated. See the article **ADULTERATION**. Adulterine children, among civilians, those sprung from an adulterous amour. Adulterine is also used for any thing that is spurious, false, or counterfeited: thus we say adulterine writings, balance, key, coins, &c.

ADULTERY, the crime of married persons, whether husband or wife, who, in violation of their marriage vow, have carnal commerce with another, besides those to whom their faith has been plighted.

By the law of Moses, both man and woman, who had been guilty of adultery, were put to death.

The antient Romans had no formal law against adultery; Augustus being the first who made it punishable by banishment, and in some cases by death. However, by an edict of Antoninus, a husband could not prosecute his wife for adultery, unless he was innocent himself. And by the regulations of Justinian, at the instance of his wife Theodora, the punishment of adultery in the woman was mitigated; whipping, and shutting up in a convent for two years, being deemed sufficient, during which time, if the husband did not take back his wife, she was shut up for life.

Among the Greeks, adultery was punished variously; sometimes by fine, and at others by what they called *paratimnus*: nay, the Lacedemonians are even said to have permitted it.

Adultery among European nations, is reckoned a private crime, none but the husband being suffered to intermeddle in the

the affair; and what is no less remarkable, though the husband be guilty of adultery, the wife is not allowed to prosecute him for the same.

In England, adultery is accounted a spiritual offence, and therefore the injured party can have no other redress but to bring an action of damages against the adulterer; and to divorce and strip the adulteress of her dower, is all the punishment she incurs. And, indeed, it must be owned, that the laying a heavy fine upon the man, and punishing the woman in the manner just mentioned, is as likely, if not more so, to prevent the frequency of adultery, as more severe methods.

Authors have established several distinct species or kinds of this crime: thus, manifest adultery is when the parties are caught in the fact; secret adultery, when the knowledge of it is kept concealed from the world; presumptive adultery, when the parties are found in bed together; single adultery, when one of the parties is not married: and so of other cases.

ADULTERY is also used for any kind of unchastity; in which sense, divines understand the seventh commandment.

ADULTERY, in the scripture-language, is likewise used for idolatry, or the forsaking the worship of the true God for that of a false one.

ADVOCATE, *advocatus*, among the Romans, a person who undertook the defence of causes, which he pleaded much in the same manner as our barristers do at present.

Advocates were held in great honour, during the first ages of the roman commonwealth, being stiled *comites, honorati, clarissimi*, and even *patroni*.

The term advocate is still kept up in all countries where the civil law obtains. In Scotland there is a college of advocates, consisting of one hundred and eighty persons, appointed to plead in all actions before the lords of session.

In France there are two kinds of advocates, or those who plead, and those who only give their opinions, like our chamber counsellors.

Lord-ADVOCATE, one of the officers of state in Scotland, who pleads in all causes of the crown, or wherein the king is concerned.

The lord advocate sometimes happens to be one of the lords of session; in which case, he only pleads in the king's causes,

Fiscal ADVOCATE, *fisci advocatus*, in roman antiquity, an officer of state under the roman emperors, who pleaded in all causes wherein the *fiscus*, or private treasury, was concerned.

Consistorial ADVOCATES, officers of the consistory at Rome, who plead in all oppositions to the disposal of benefices in that court: they are ten in number.

ADVOCATE of a city, in the german polity, a magistrate appointed, in the emperor's name, to administer justice.

ADVOCATE, among ecclesiastical writers, a person who undertakes the defence of a church, monastery, &c.

Of these there were several kinds, as elective advocates, or those chosen by the chapter, bishop, abbot, &c. nominative advocates, or those appointed by the emperor, pope, &c. military advocates, those who undertook the defence of the church rather by arms than eloquence, &c. There were also feudal advocates, supreme and subordinate advocates; and matricular advocates, or those of the mother or cathedral church.

ADVOCATION, among civilians, the act of calling another to assist us by pleading some cause.

Letters of ADVOCATION, in the law of Scotland, a writ issued by the lords of session, advocating, or calling, a cause from an incompetent judge to themselves.

ADVOCATIONE decimarum, a writ which lies for claiming a fourth part of tithes, or upwards, belonging to any church.

ADVOW, in law. See **AVOWRY**.

ADVOWEE, in law, signifies the patron of a church, or he who has a right to present to a benefice.

Paramount ADVOWEE, is used for the king, as being the highest patron.

ADVOWEE also denotes the defender of the rights of a church; in which sense it amounts to the same with advocate. See the article **ADVOCATE**.

ADVOWING, or **AVOWRY**. See the article **AVOWRY**.

ADVOWSON, in a general sense, denotes the office or employment of an advowee. See the article **ADVOWEE**.

ADVOWSON, in law, is the right of patronage, or presenting to a vacant benefice. See the article **PATRONAGE**.

Advowsons are either appendant, or in gross. Appendant advowsons, are those which depend on a manor, or lands, and pass as appurtenances of the same: whereas advowson in gross, is a right of presentation.

sentation subsisting by itself, belonging to a person, and not to lands.

In either case, advowsons are no less the property of the patrons than their landed estate: accordingly they may be granted away by deed or will, and are assets in the hands of executors. However, papists and jews, seized of any advowsons, are disabled from presenting: the right of presentation being in this case transferred to the chancellors of the universities, or the bishop of the diocese.

ADVOWTRY, a term used in some old law-books for adultery. See the article **ADULTERY**.

ADUST, among physicians, an appellation given to such humours as are become of a hot and fiery nature. Thus blood is said to be adust, when, the more subtle and volatile part being evaporated, the remainder is vapid and impure.

ADUSTION, among physicians, is used for an inflammation of the parts about the brain and its membranes, attended with hollowness of the sciniput and eyes, a pale colour, and driness of the body: in which case, the yolk of an egg, with oil of roses, applied by way of cataplasm, is recommended; as are the leaves of turnsol, the parings of a gourd, the pulp of a pompion, applied in the same manner, with oil of roses.

ADY, in botany, the name of a species of palm-tree, found in the island of St. Thomas; the fruit of which is of the size and shape of a lemon, and contains an aromatic kernel, from whence an oil is prepared that answers the end of butter in Europe.

The Portuguese call the fruit *caryoces* and *carioffe*, and esteem the kernels as a good cordial.

ADYTUM, *ადითონ*; in pagan antiquity, the most retired and secret place of their temples, into which none but the priests were allowed to enter.

The term is purely Greek, signifying inaccessible.

The adytum of the heathens answered to the sanctum sanctorum of the Jews, and was the place from whence they delivered oracles.

ADZE, a kind of ax, otherwise called addice. See the article **ADDICE**.

Æ, *Æ*, among grammarians, a diphthong or double vowel, compounded of A and E.

The orthography of this diphthong is far from being fixed, the simple E frequent-

ly supplying its place. When, therefore, an article cannot be found under the *Æ*, the reader is to look for it under E: though the references for the most part, will be a faithful guide in cases of this nature.

ÆACEA, in grecian antiquity, solemn festivals and games celebrated at *Ægina*, in honour of *Æacus*; who, on account of his justice upon earth, was thought to have been appointed one of the judges in hell.

ÆCHMALOTARCHA, *αρχμαλοταρχης*, in jewish antiquity, the title given to the principal leader or governor of the hebrew captives residing in Chaldaea, Assyria, and the neighbouring countries.

The Jews themselves call this magistrate *Rosch-galuth*, i. e. chief of the captivity. Bagnage assures us, that there was no æchmalotarch before the end of the second century: and Prideaux says, that the æchmalotarch, at present, is only the head of their religion, like the *episcopus Judæorum* in England, the altarch at Alexandria, and the ethnarch at Antioch.

ÆDES, in roman antiquity, besides its more ordinary signification of a house, or the internal part of a house, where the family used to eat, likewise signified an inferior kind of temple, consecrated indeed to some deity, but not by the augurs.

There were a vast number of these in antient Rome: thus we read of the *ædes fortuna*, *ædes pacis*, *ædes Herculis*, &c.

ÆDILE, *ædilis*, in roman antiquity, a magistrate whose chief business was to superintend buildings of all kinds, but more especially public ones, as temples, aqueducts, bridges, &c.

To the ædiles likewise belonged the care of the highways, public places, weights and measures, &c. They also fixed the prices of provisions, took cognizance of debauches, punished lewd women, and such persons as frequented gaming-houses. The custody of the plebiscita, or orders of the people, was likewise committed to them. They had the inspection of comedies, and other pieces of wit; and were obliged to exhibit magnificent games to the people, at their own expence, whereby many of them were ruined.

At first the ædiles were only two in number, and chosen from among the common people; but these being unable to support the expence of the public shews, two more were created out of the patrician order: these last took upon themselves all

the

the charges of the games, and were called *ædiles curules*, or *maiores*, as the two plebeians were denominated *minores*.

Julius Cæsar, in order to ease these four, created two others, who were called *ædiles cereales*, as having the inspection of all manner of grain committed to their care. There were also *ædiles* in the municipal cities, who had much the same authority as those in Rome.

ÆDILITIAN *edict*, *ædilitium edictum*, among the Romans, was particularly used for the *ædile's* sentence, allowing redress to the purchaser of a beast or slave, that had been imposed on.

• **ÆDITUUS**, in roman antiquity, an officer belonging to temples, who had the charge of the offerings, treasure, and sacred utensils.

The female deities had a woman-officer of this kind called *ÆDITUA*.

ÆGAGROPILA, or **ÆGAGROPILUS**, *αἰγαστροπίλα*, in natural history, a ball composed of a substance resembling hair, generated in the stomach of the chamois-goat.

It is a kind of bezoard, called *bezoar germanicum*, and is possessed of no medicinal virtue, no more than the balls of the same kind formed in the stomachs of cows, hogs, &c. See the article *BEZOAR*.

ÆGILOPS, *αἰγίλωψ*, among physicians, an abscess in the corner of the eye, next the nose; or, according to Heister, a small tumour caused by an inflammation or abscess, which in time, by the acrimony of its purulent matter, erodes the external skin, lacrymal ducts, and fat round the ball of the eye; nay, sometimes it renders the neighbouring bones carious to a dangerous degree.

As to the method of treatment, the surgeon is first to endeavour to disperse the tumour, by moistening it several times a day with spirit of vitriol; but if he finds this impracticable, he is to forward the suppuration as much as possible, lest an oblique fistula, or worse consequences, should be the effects of too long delay. For this purpose, a plaster of diachylon with the gums, or emollient cataplasms may be used.

When fully ripe, the tumour is to be laid open with a lancet or scalpel, and the ulcer cleansed and healed in the ordinary way. See the article *ULCER*.

ÆGILOPS, in botany, a genus of the *polygamia-monoecia* class of plants; the corolla of the hermaphrodite flower consists of a bivalve glume, terminated by a double

or triple arista or awn; the seed is single and oblong; the corolla of the male flower is also a bivalve aristated glume, as in the hermaphrodite flower.

ÆGINETIA, in botany, a genus of the *didynamia angiospermia* class of plants, the flower of which consists of one leaf, large, round, and inflated at the base; the tube is short and cylindric; and the mouth small, but expanded and turning back at the edges.

EGIPAN, in heathen mythology, a denomination given to the god Pan, by reason he was represented with the horns, legs, feet, &c. of a goat.

Egipan is also the name of certain monsters, the upper part of whose bodies resembled a goat, and their lower part a fish's tail.

ÆGIS, in heathen mythology, is particularly used for the shield or cuirass of Jupiter and Pallas.

Ægis is derived from *αἶξ*, *aiō*, a she-goat; Jupiter having covered his shield with the skin of Amalthea, the goat that suckled him. Afterwards making a present of the buckler to Minerva, this goddess fixed the head of Medusa on the middle of it, which, by that means, became capable of turning all those into stone who looked at it.

ÆGOPODIUM, *GOUT-WEED*, in botany, a genus of the *pentandria digynia* class of plants; the general corolla whereof is uniform; the single flowers consist each of five, oval, concave, and nearly equal petals; the fruit is naked, ovato-oblong, striated, and separable into two parts; the seeds are two, ovato-oblong and striated, convex on one side, and plain on the other.

ÆGYPTIACUM, in pharmacy, the name of several detergent ointments, used for eating off rotten flesh, and cleansing foul ulcers.

The *ægyptiacum*, as ordered in the Edinburgh dispensatory, is a composition of verdigrease, reduced to fine powder; five ounces; of honey, fourteen ounces; of vinegar, seven ounces: all which are to be boiled over a gentle fire, to the consistence of an unguent.

It is an admirable cleanser, and much recommended by surgeons to keep down fungous excrescences, and eat off raw flesh; only that the *ægyptiacum* of the London dispensatory is thought to be too corrosive.

ÆLURUS, in egyptian mythology, the deity or god of cats; represented sometimes

times like a cat, and at others, like a man with a cat's head.

ÆNIGMA, *αἰνίγμα*, denotes any dark saying or question, wherein some well-known thing is concealed under obscure language. The parable, gryphus, and rebus are by some accounted three species, or branches, of ænigma. See the articles **PARABLE**, **GRYPHUS**, and **REBUS**.

To compose an ænigma, two things are to be chosen which bear some resemblance to each other, as the sun and a monarch, a ship and a house, a bed and the grave, &c. on which some perplexing and intricate question, description, or propo-
poia is to be made. This last is most pleasing, in as much as it gives life and action to things void of them: such is that famous one of the chemists, called the Sybelline Ænigma, and supposed by some to signify the name Jehovah, by others the word phosphorus, but by the generality the word arsenic, *Αρσενικον*.

Ἐνία γράμματ' ἔχω, τετρασύλλαβός ἐμι, νόμιμε.
Ἄς τρεῖς αἱ πρῶται δὲ γράμματ' ἔχουσιν ἑκάστη,
Ἡ λοιπὴ δὲ τὰ λοιπὰ, καὶ ἐστὶν ἄφωνα τὰ πέντε.
Τὰ πάντες δ' ἀριθμῷ ἑκατοτάδης ἐστὶ δις ἑπτά,
Καὶ τρεῖς τρεῖς δεκάδης καὶ δις τέτα. Γυνὴ δὲ τίς ἐμι,
Οὐκ ἀμύητος ἐστὶ τῆς παρ' ἐμὲ σοφίας.

Thus translated by Mr. Leibnitz.

Literulis noscor, quadrissyllabus ipse, novenis:

Syllaba habet binas, nisi quod tenet ultima ternas:

Vocales quatuor, quinis non propria vox est.

Bis septem vicibus numerum centuria totum.

Ingreditur, decadesque novem, tum bis tria.

Si me

Novenis, hinc aditus ad sacra nostra patent.

Painted ænigmas are representations of some objects, whether of nature or art, concealed under the human figure. See the next article.

F. Menestrier has attempted to reduce the composition and resolution of Ænigma's to a kind of art, with fixed rules, and principles, which he calls the philosophy of ænigmatic images.

ÆNIGMATICAL, denotes something belonging to, or partaking of the nature of an ænigma. See the last article.

The ancient sages in general affected an ænigmatical way of writing, to conceal their doctrines from the populace. The Romans in Nero's time were obliged to have recourse to the like method, though for different reasons. The ænigmatical characters of the Egyptians were a species

of hieroglyphics, consisting of such as bore no natural resemblance to the things they represented. Such was the beetle, used to express the sun; the serpent, to represent the stars.—Among the divers species of revelation, enumerated by divines, there is one called the ænigmatical. Vander Hard maintains at large, that the whole book of Jonah is ænigmatical, particularly, that by the prophet himself, is to be understood the jewish nation; by his being cast into the sea in a storm, and swallowed by a whale, the Jews being carried into captivity; by his prayer in the fish's belly, the Jewish exiles supplications in their captivity; by the fish's vomiting him up, their return into their own country, &c.

ÆOLIC, in a general sense, denotes something belonging to Æolia, or Æolis.

Æolic dialect, among grammarians, one of the five dialects of the greek tongue, agreeing in most things with the doric dialect. See the article **DORIC**.

Æolic verse, in prosody, a kind of verse, consisting of an iambus, or spondee, then of two anapests, separated by a long syllable, and lastly, of another syllable. Such is,

O stelleri conditor orbis,

ÆOLIPILE, *æolipila*, a hollow metalline ball, in which is inserted a slender neck, or pipe; from whence, after the vessel has been partly filled with water, and heated, issues a blast of wind with great vehemence.

Great care should be taken that the aperture of the pipe be not stopped when the instrument is put on the fire, otherwise the æolipile will burst with a vast explosion, and may occasion no little mischief.

As to the phenomena of the æolipile, they may be accounted for from the rarefaction of the water. See **RAREFACTION**. Dr. Plot gives an instance where the æolipile is actually used to blow the fire: the lord of the manor of Effington, is bound by his tenure to drive a goose every New-year's-day three times round the hall of the lord of Hilton, while Jack of Hilton (a brazen figure having the structure of an æolipile) blows the fire. In Italy it is said, that the æolipile is commonly made use of to cure smoky chimneys: for being hung over the fire, the blast arising from it carries up the loitering smoke along with it.

F. Merfennus, and some others, have made use of this machine, to measure the gravity and degree of rarefaction of the

air. But this method is liable to considerable objections.

ÆOLIS, in antient geography, a country lying upon the western coast of Asia Minor.

ÆOLUS, in the heathen theology, the god of the winds, painted with swollen blubber cheeks, like one who with main force endeavours to blow a blast; also with two small wings upon his shoulders, and a fiery high-coloured countenance.

ÆON, *αιων*, properly signifies the age or duration of any thing. See **DURATION**.

ÆON, among the Platonists, was used to denote any virtue, attribute, or perfection: hence they represented the deity as an assemblage of all possible æons, calling it *pleroma*, *πληρωμα*, a greek word signifying fullness.

For a farther account of æons, as received among some heretic christians. See the article **VALENTINIANS**.

ÆORA, among antient physicians, a peculiar kind of exercise, which consisted in being carried about in a litter or other vehicle. Sometimes the patient's bed was hung by ropes, in the manner of a hammoc, and moved backwards and forwards. Travelling in a chariot, or on board a ship or boat, were also accounted so many kinds of æora.

ÆQUATION,

ÆQUATOR,

ÆQUILIBRIUM,

ÆQUINOCTIAL,

ÆQUIPOLLENCE,

ÆQUIVALENT,

ÆQUIVOCAL,

ÆQUIVOCATION,

ÆQUATION.

ÆQUATOR.

ÆQUILIBRIUM.

ÆQUINOCTIAL.

ÆQUIPOLLENCE

ÆQUIVALENT.

ÆQUIVOCAL.

ÆQUIVOCATION

ÆRA, in chronology, a series of years, commencing from a certain fixed point of time, called an epocha: thus, we say the christian æra, that is, the number of years elapsed since the birth of Christ.

The generality of authors, however, use the terms æra and epocha in a synonymous sense, or for the point of time from which the computation commences; making no other difference between them, except that the former is chiefly used by the vulgar, and the latter by chronologers.

Spanish ÆRA, a method of computing time among the antient Spaniards, commencing from the second division of the roman provinces between Augustus, Anthony, and Lepidus, in the year of Rome 714, and the 4676th year of the Julian period, and 38th before Christ. Hence, if to any year of the spanish æra we add 4675, the sum will be the Julian year; or, if

from the same year we subtract 38, the remainder will be the year of the christian æra.

By this æra the Spaniards computed their time for about fourteen hundred years, when it was changed for the common christian æra.

Christian ÆRA denotes the number of years elapsed since the birth of Christ; a method of computation first introduced in the sixth century, and not received in Spain till towards the end of the fourteenth. See the article **EPOCHA**.

ÆRA of Nabonassar. See **NABONASSAR**.
ÆRA of the Hegira. See **HEGIRA**.

ÆRARIUM, in roman antiquity, the treasury, or place where the public money was deposited.

Ærarium and **fiscus** are sometimes used in a synonymous sense, though the latter, strictly speaking, contained only the money belonging to the emperor.

Ærarium sanctius was an appendage added to the former, for containing the monies arising from the twentieth part of all legacies, which was kept for the extreme necessities of the state.

Ærarium privatum was the emperor's privy purse, or place where the monies arising from his private patrimony were deposited.

ÆRARIUM Ilitiae, or *Junonis Lucinae*, one where the monies were deposited, which parents paid for the birth of each child.

There are several other treasuries mentioned in historians, as the *ærarium juvenutis*, *veneris*, &c.

ÆRARIUS, in a general sense, denotes any person employed in coining, or managing the public monies. See the article **ÆRARIUM**.

Ærarius was more particularly used by the Romans for a degraded citizen, whose name had been struck off the list of his century.

The *ærarii* were so called on account of their being liable to all the taxes and other burdens of the state, without enjoying any of its privileges. Hence, *inter ærarios referri* was a great deal more severe punishment than *tribu moveri*.

AERIAL, in a general sense, denotes something partaking of the nature of air: thus we say, an aerial substance, aerial particles, &c.

Aërial is also used for any thing connected with, or belonging to air; in which sense we say aerial inhabitants, aerial perspective, aerial regions, &c. See the articles **PERSPECTIVE** and **REGION**.

AERIANS,

ÆRIANS, *æriani*, in church-history, a branch of arians, who to the doctrines of that sect added some peculiar dogmas of their own; as, that there is no difference between bishops and priests; a doctrine maintained by many modern divines, particularly of the presbyterian and other reformed churches. See **PRESBYTERIANS**.

ÆRICA, or **ERICA**, the name by which some call the common herring. See the article **HERRING**.

AEROGRAPHY signifies a description of the air, especially of its dimensions, and other most obvious properties; in which sense it differs but little from

AEROLOGY, which is a scientific account of the nature and less obvious properties of air. See **AIR** and **ATMOSPHERE**.

AEROMANCY, *æromantia*, a species of divination performed by means of air, winds, &c.

Æromancy is also used for the art of foretelling the various changes of the air and weather, by means of barometers, hygrometers, &c. See **BAROMETER**, &c.

AEROMETRY, *aerometria*, the art of measuring the motion, gravity, elasticity, rarefaction, condensation, &c. of air; in which sense, ærometry is synonymous with pneumatics, a term in more common use. See the article **PNEUMATICS**.

AEROPHYLACEA, a term used by some naturalists for certain caverns or reservoirs of air, supposed to exist in the bowels of the earth, by means of which they account for the origin of springs.

AEROSTATICA, that branch of ærometry which considers the weight and ballance of the air and atmosphere.

AERSCHOT, a town of the dutch netherlands, situated in Brabant, about fifteen miles eastward of Mechlin.

ÆRUGINOUS, an epithet given to such things as resemble, or partake of the nature of the rust of copper. Thus, an æruginous colour is green, or that of verdegris.

The term æruginous is frequently applied for the green stuff cast up by vomit in bilious cases.

ÆRUGO, in natural history, properly signifies the rust of copper, otherwise called *viride æris*.

Ærugo is either natural, as that found about copper-mines; or artificial, like verdegris. See the article **VERDEGRIS**.

ÆRUSCATORES, in antiquity, a kind of strolling beggars, not unlike gypsies, who drew money from the credulous by fortune-telling, and playing of tricks.

The priests of Cybele were called *æruscatores magnæ matris*, on account of their begging in the streets.

Æruscatores was also a denomination given to griping exactors, or collectors of the revenue.

ÆS properly signifies copper, or money coined of that metal. See the articles **COPPER** and **MONEY**.

Authors speak of *æs rude*, *æs grave*, and *æs signatum*. Some will have the two former to denote the same thing, *viz.* money paid by weight and not by tale, as the *æs signatum*, or coined money, was. Others, again, will have the *æs grave* to have been large pieces of coined copper, containing a whole *æs*, or pound weight. Kuster, on the other hand, thinks that *æs grave* was used to denote any kind of copper-money, in opposition to that made of gold or silver, which was light.

Æs flavum, yellow copper, among the Romans, an appellation given to the coarser kinds of brass, the finest being called *orichalcum*. See the articles **BRASS** and **ORICHALCUM**.

Æs, *Æris*, *χαλκός*, among antient alchemists, a kind of small scales procured from melted copper, by exposing it in a vehement heat: but among the moderns it is sometimes used for *æugo* or verdegris.

Æs ustum, among chemists, a preparation of copper, otherwise called *æs veneris*, *æs crematum*, &c.

There are several ways of making it, but the most frequent is, by exposing plates of copper in a reverberatory furnace till they will crumble into a powder, which is called *æs ustum*.

Æs ustum is extremely drying and detensive, and therefore used for eating off dead flesh, and cleansing foul ulcers; and is either sprinkled on the part in fine powder, or mixed in ointments.

Æs ustum is also used for colouring glass.

ÆSCHYNOMENE, in botany, a genus of the *diadelphia d. candria* class of plants; the corolla whereof is papilionaceous; the fruit consists of a long compresso-plane, articulated, unilocular pod, containing a single kidney-shaped seed.

ÆSNECY, in law-books, a term used to denote the priority of age among coparceners. See the article **COPARCENERS**.

ÆSTIMATIO CAPITIS, a term met with in old law-books, for a fine antiently ordained to be paid for offences committed against persons of quality, according to their several degrees.

ÆSTIVAL, in a general sense, denotes something connected with, or belonging to summer. Hence, we say æstival point, æstival sign, æstival solstice, &c. See the articles **POINT**, **SIGN**, **SOLSTICE**, &c.

ÆSTUARIA, *æstuarium*, in geography, denotes an arm of the sea, which runs a good way within land. Such is the Bristol channel, and many of the friths of Scotland.

ÆSTUARIES, in the antient baths, were secret passages from the hypocaustum, into the chambers. See the articles **BATH** and **HYPOCAUSTUM**.

ÆSTUARY, among physicians, denotes a vapour-bath, or any other instrument for conveying heat to the whole, or a particular part of the body.

ÆTATE probanda, in law, a writ which formerly lay to inquire whether the king's tenant was of full age; but now disused, since the abolishing of wards and liveries.

ÆTH, or **ATH**, a strong little town in the austrian netherlands, and province of Hainault, situated on the river Dender, about twenty miles S. W. of Brussels.

ÆTHER, *Αἰθήρ*, in physiology, a term used by philosophers for the most subtle of all fluids, which, commencing from the limits of our atmosphere, occupies the vast expanse of heaven; or, it is that inconceivable fine fluid, which fills the intermediate space between one fixed star and another, as well as between the planets of our solar system.

Though the existence of such a fluid be generally allowed, yet authors differ widely with respect to its nature; some making it a finer kind of air, others a kind of fiery effluvia from the sun and fiery stars; and others, a fluid *sui generis*. Æther is supposed by some philosophers not only to fill up the intermediate space between the heavenly bodies, but to permeate all bodies whatever; also to be the medium of light, that vast fluid in which the air is only a tincture; and, lastly, that it is the cause of gravity in the earth and other celestial bodies, assisted in the action of burning, and in the dissolution of other bodies by menstrums.

After all, there are not wanting some who make it a question, whether there be any such fluid as æther at all.

ÆTHER, in chemistry, a name sometimes used for any extremely volatile and subtle spirit, as the *spiritus ætherius frobenii*. See the article **SPIRIT**.

Æther is more particularly used for an extremely penetrating spirit, made by di-

stillling spirit of wine with oil of vitriol, and then precipitating the sulphureous gas with an alcali.

ÆTHERIAL, in a general sense, denotes something belonging to, or partaking of, the nature of æther. See **ÆTHER**.

ÆTHERIAL oil, among chemists, a subtle essential oil, approaching to the nature of a spirit. See the article **OIL**.

Ætherial phosphorus, a name given by some to the mercurial phosphorus. See the article **PHOSPHORUS**.

ÆTHIOPS, or **ÆTHIOPS MINERAL**, a preparation of mercury, made by rubbing in a marble or glass mortar, equal quantities of quicksilver and flowers of sulphur, till the mercury wholly disappears, and there remains a fine deep black powder, from whence it has got the name of æthiops.

This is esteemed one of the safest preparations of mercury, and is much used against cutaneous foulnesses, in scrophulous cases, in remains of venereal disorders, and even in the gout and rheumatism. In scorbutic cases, scarce any medicine exceeds it; and it has been long known as a remedy against worms. Its dose is from a scruple to a dram or two.

ÆTHIOPS albus, a preparation of mercury, which is made by rubbing quicksilver with a double quantity of crabs eyes, or sugar-candy, till it is extinguished.

ÆTHIOPS of Dr. Plummer, a medicine prepared by levigating sulphur auratura antimonii with an equal quantity of calomel: it is said to be good in venereal and cutaneous disorders.

ÆTIOLOGY, that branch of physic which assigns the causes of diseases.

ÆTIOLOGY, in rhetoric, is deemed a figure of speech, whereby, in relating an event, we, at the same time, unfold the causes of it.

ÆTITÆ, or **ÆTITES**, in natural history, a name given to pebbles or stones of any kind, which have a loose nucleus rattling within them, and are called in english, the eagle-stone.

So far from being a particular genus of fossils themselves, we find ætitæ among very different genuses, as the geodes, heteropyræ, &c. but the most valued of all others, is that formed of the several varieties of our common pebbles. See the article **GEODES**, &c.

As to the formation of ætitæ, naturalists account for it from this consideration, that as the nuclei are coarser and more debased by earth than the rest of the pebble, they

they must shrink up and contract themselves into a smaller size ; by which means, it will be separated from the surrounding crust, and thereby become loose. See plate VII. fig. 3.

Many imaginary virtues have been ascribed to these stones, as, that they assist women in labour, discover thieves, &c. than which nothing can be more ridiculous.

ÆTNA, a famous burning mountain, or volcano of Sicily. It is one of the highest mountains of the whole island, and situated on the eastern coast, not far from Catania.

AFFECTIO bovina, a disorder incident to cattle, occasioned by a small worm, which eats its way all over the body.

AFFECTION, in a general sense, denotes an attribute inseparable from its subject, or an essential property of it. Thus, quantity, figure, weight, &c. are affections of all bodies.

AFFECTIONS of the mind are the same with passions or inclinations. See the article **PASSION**.

AFFECTION, in geometry, a term formerly used to denote the property of any curve.

AFFECTION, in medicine, a term used for any disorder with which a limb or other part of the body is afflicted. Thus, we say, the hypochondriacal, or hysterical affection, &c. See the articles **HYPOCHONDRIC PASSION**, and **HYSTERIC**.

AFFEERERS, or **AFFEERORS**, in law, persons appointed in court-leets, courts-baron, &c. to settle, upon oath, the fines to be imposed upon those who have been guilty of faults arbitrarily punishable ; that is, such as have no express penalty assigned by statute.

AFFETTUOSO, or *con* **AFFETTO**, in the Italian music, intimates that the part, to which it is added, ought to be played in a tender moving way ; and, consequently, rather slow than fast.

AFFIANCE, in law, denotes the mutual plighting of troth, between a man and a woman, to marry each other.

AFFIDATIO DOMINORUM, in old law-books, denotes an oath of allegiance, taken by the lords in parliament.

AFFIDATUS, or **AFFIDIATUS**, in old law-books, signifies a tenant by fealty ; or one who put himself under the protection of his lord, vowing fealty to him.

AFFIDAVIT signifies an oath in writing,

sworn before some person who is authorised to take the same.

In an affidavit, the time, place of habitation, and addition of the person who makes it, are to be inserted.

Affidavits are chiefly used to certify the serving of processes or other matters concerning the proceedings in a court ; and therefore should set forth the matter of fact to be proved, without taking any notice of the merits of the cause. They are read in court upon motions, but are not admitted in evidence at trials.

By statute, the judges of the courts at Westminster may commission persons, in the several counties in England, to take affidavits relating to any thing depending in their several courts.

AFFINITY, *affinitas*, among civilians, denotes the relation of each of the parties married to the kindred of the other.

Affinity is distinguished into three kinds.

1. Direct affinity, or that subsisting between the husband, and his wife's relations by blood ; or, between the wife, and her husband's relations, by blood. 2. Secondary affinity, or that which subsists between the husband, and his wife's relations by marriage. 3. Collateral affinity, or that which subsists between the husband, and the relations of his wife's relations. The degrees of affinity are always the same with those of consanguinity. Hence, in whatever degree of consanguinity the kindred of one of the parties married are, they are in the same degree of affinity to the other.

By the canon law, direct affinity renders marriage unlawful to the fourth generation, inclusive ; but the case is otherwise with respect to the secondary and collateral kinds. It is likewise to be observed, that the affinity contracted by a criminal commerce, is an impediment to marriage so far as the second generation : thus, a man is not allowed to marry the sister of a woman he has lain with. Nay, with regard to contracting marriage, affinity is not dissolved by death : for, though a woman may be admitted a witness for the brother of her deceased husband, she is not allowed to marry him.

In the Romish church, a kind of spiritual affinity is supposed to be contracted by baptism ; so that it is not deemed lawful for a god-father to marry his god-daughter, without a dispensation.

AFFINITY is also used to denote a conformity,

unity, or agreement, between two or more things: thus, we say, the affinity of languages, the affinity of words, the affinity of sounds, &c.

AFFIRMATION, among logicians, is the act of the mind asserting the truth or reality of something; or it is a positive proposition, declaring certain properties or qualities to belong to the thing in question: thus, when I say, *every circle is a perfectly round figure*, I affirm perfect roundness to be an inseparable property of a circle.

AFFIRMATION is also used for the ratifying or confirming the sentence, or decree, of some inferior court: thus, we say, the house of lords on an appeal affirmed the decree of the lord chancellor, or the decree of the lords of session.

AFFIRMATION also denotes a solemn attestation of the truth of some fact, which the quakers are allowed to make instead of an oath.

This sect think all kinds of swearing unlawful; and therefore the legislature has appointed the following affirmation to be taken instead thereof, *viz. I A. B. do sincerely, solemnly, and truly declare and affirm, &c.* This affirmation is, by statute, put upon the same footing with an oath; every person convicted of affirming a falsehood, being liable to the penalties provided against wilful and corrupt perjury. It is also deemed equivalent to an oath, except in criminal cases, upon juries, and in places of profit and trust under the government.

AFFIRMATION, among some grammarians, denotes a part of speech generally called a verb. See the article **VERB**.

AFFIRMATIVE, in a general sense, denotes any thing which implies an affirmation. See the article **AFFIRMATION**.

AFFIRMATIVE, in the roman inquisition, a designation given to such heretics as openly avow the opinions they are charged withal.

AFFIRMATIVE character. See the article **CHARACTER**.

AFFIRMATIVE proposition. See the article **PROPOSITION**.

AFFIRMATIVE quantity. See **QUANTITY**.

AFFIRMATIVE sign. See **SIGN**.

AFFIX, among grammarians, a particle added at the beginning of a word, either to diversify its form, or alter its signification.

In the hebrew language, there are a multitude of affixes, i. e. single letters

or syllables, which, being prefixed to nouns and verbs, serve instead of pronouns, and contribute greatly to the brevity of that language.

AFFLATUS, among heathen mythologists and poets, denotes the actual inspiration of some divinity: thus, Virgil, *afflata est numine quando*

Iam proprio Deo.

Tully, however, must be understood to extend the meaning of the word farther, when he attributes all great actions to a divine *afflatus*. See **INSPIRATION**.

AFFORAGE, in the french customs, a duty paid to the lord of a district, for permission to sell wine, or other liquors, within his seignior.

Afforage is also used for the rate or price of provisions, laid and fixed by the provost of Paris, or by the sheriffs.

AFFORESTING, *afforestation*, in our old law-books, is the turning lands into a forest, as the converting a forest to other uses, is called *disafforesting*, or *deafforesting*.

AFFRAY, or **AFFRAYMENT**, in law, formerly signified the crime of affrighting other persons, by appearing in unusual armour, brandishing a weapon, &c. But, at present, affray denotes a skirmish or fighting between two or more: and there must be a stroke given, otherwise it is no affray.

An affray is a common injury, punishable by the justices of the peace in their sessions, by fine and imprisonment, and, accordingly, differs from assault, which is a private offence.

A constable may seize, and carry affrayers before a justice; as may likewise any private person.

AFFRONTE'E, in heraldry, an appellation given to animals facing one another on an escutcheon, a kind of bearing, which is otherwise called *confrontée*, and stands opposed to *adossée*.

AFRICA, in geography, a vast peninsula, which makes one of the four grand divisions, or quarters of the world, as they are commonly, though falsely called. It is joined to Asia by the isthmus of Suez, reaches about four thousand two hundred miles in breadth from east to west, and is situated between 37° north latitude, and 35° south latitude. The Mediterranean sea bounds it on the north, the isthmus of Suez, the red-sea, and the eastern ocean, on the east; the southern ocean on the south; and the atlantic, or western ocean on the west.

Geographers

Geographers divide Africa into ten grand divisions: 1. Egypt; 2. Abyssinia, or the upper Ethiopia; 3. The coast of Anian and Zanguebar; 4. Monoemugi, Monomotapa, and Caffaria; sometimes called the lower Ethiopia; 5. Congo, Angola, and Guinea; 6. Nigritia, or Negroland; 7. Zaara, or the desert; 8. Biledulgerid, the antient Numidia; 9. The empire of Morocco; 10. The coast of Barbary, on the Mediterranean, comprehending the countries of Algiers, Tunis, Tripoly, and Barca. See the article EGYPT, &c.

The principal commodities are gold, ambergrease, elephants' teeth, guinea-pepper, red-wood, hides; wax, saunders, sugar, civet, oil, cardamums, hemp, flax, dates, almonds, indigo, gum, ostrich-feathers, amber, ebony, canes, citrons, lemons, copper, cocoa-nuts, cloves, saffron, crystal; and a multitude of negroes, that supply our american plantations with slaves.

Africa is represented in painting, by a black woman almost naked, with frizzled hair, an elephant's trunk for a crest, a fierce lion on one side, and a viper and serpent on the other; with other emblems of the produce of the country.

AFRICA is also a considerable sea-port town of Barbary, about seventy miles south of Tunis.

AFRICAN company, a society of merchants established by king Charles II. for trading to Africa; which trade is now laid open to all his majesty's subjects, paying ten per cent. for maintaining the forts.

ASFAGERS, persons appointed by the burgo-masters of Amsterdam, to preside over the public sales made in that city. They must always have a clerk of the secretaries office, with them, to take an account of the sale.

AFT, in the sea language, the same with abast. See the article ABAST.

AFTER-birth, in midwifery, the membranes which surrounded the infant in the womb, more usually called the secundines. See the articles DELIVERY and SECUNDINES.

In brutes this is called the heam, or cleaning.

AFTER-math, in husbandry, signifies the grass which springs or grows up after mowing; or the grass, or stubble, cut after corn.

AFTER-noon, denotes one half of the natural day, or the space of time between noon and night.

The antient Romans dedicated their af-

ternoons to diversion, as their forenoons to business. The former were reserved for pleasure, and the enjoyment of life. But though it was the rule not to take any part of the afternoon for business, nor any of the forenoon for pleasure, yet some few of the more laborious magistrates made it a custom to continue their occupation to the tenth hour, answering to our four o'clock, as is related of Aftinius Polio; but after that time, he would not so much as open a letter, from whatever quarter it came.

AFTER-pains, in midwifery, excessive pains felt in the groin, loins, &c. after the woman is delivered: See DELIVERY.

In order to guard against them, physicians recommend oil of sweet almonds, sperma ceti, troches of myrrh and syrup of maiden-hair; and, generally, with success.

AFTER-swarms, in the management of bees, are those which leave the hive some time after the first has swarmed.

Butler tells us, that the after-swarms differ from the prime, in that the latter are directed by the vulgar, or crowd of bees, whose only rule is the fullness of the hive; whereas the former are appointed by the ruling bees, and indicated by a noise, or call, which these make for the space of two or three days, as it were to give warning to the common herd to prepare for a march. Within eight or ten days after the prime-swarm is gone, if the princess next in order find a competent number fledged and ready, she begins to tune her treble voice, in a mournful and begging note; as if she prayed the queen-mother to let them go; to which voice, if she vouchsafe a reply, by tuning her bass to the other's treble, it marks her consent: in consequence of which, within a day or two after, if the weather allow, the new swarm appears. If the prime swarm be broken, the after will both call and swarm the sooner, perhaps the next day; in which a third, sometimes a fourth, succeeds in the same season; but all usually within a fortnight after the prime-swarm. See BEE.

AGA, in the turkish language, signifies a great lord, or commander. Hence, the aga of the janizaries is the commander in chief of that corps; as the general of the horse is denominated spahiclar-aga. See JANIZARIES and SPAHIS.

Instead of aga, the term agassi, or agasi, is not unfrequently met with; as the capi-agassi, i. e. the chief of the pages, &c.

AGANIPPIDES, in antient poetry, a designation

signation given to the muses, from a fountain of mount Helicon, called Aganippe.

AGAPÆ, or **AGAPES**, in church-history, certain love-feasts kept by the antient christians, as a token of brotherly charity and mutual benevolence.

However innocent the original intention of these festivals might have been, abuses in time got footing in them, and gave great occasion for scandal; so that it became necessary to forbid the kiss of charity between persons of different sexes, as well as to have any beds or couches in the place where they assembled.

AGAPETÆ, in church-history, a kind of nuns among the primitive christians, who attended on, and served the clergy.

At first there was nothing scandalous in these societies, though they gave great offence afterwards, and were wholly abolished by the council of Lateran, in 1139.

AGARIC, *agaricus*, in botany, a genus of the cryptogamia algæ class of plants, growing on the trunks of trees, especially the larch-tree, and resembling the common mushroom, both in substance and structure. See plate VII. fig. 4.

Agaric is a fungus, of an irregular figure, three or four inches in length, and as many in breadth and thickness. It is extremely soft and elastic, taking an impression from the least touch, and resuming its former figure again: its colour, on the out-side, is a pale yellowish white, but a pure white within.

It was much used by the antients, as a purge; but the present practice condemns it, as being not only disagreeable, but unsafe and pernicious.

Female AGARIC, the *agaricus pedis equini* facie of Tournefort, called from its being very easily inflammable, touchwood or spunk, is a fungus frequently met with on different kinds of trees in England, and has been sometimes brought into the shops mixed with the true agaric of the larch. From this it is easily distinguishable, by its greater weight, dusky colour, and mucilaginous taste, void of bitterness. The medullary part of this fungus, beat soft, and applied externally, has been of late greatly celebrated as a styptic, and said to restrain not only venal, but arterial hæmorrhages, without the use of ligatures. See the articles **STYPTIC** and **HÆMORRHAGE**.

Mineral AGARIC, in natural history, a light marley earth, so called on account of its resemblance to the vegetable agaric, in its colour and spongy texture.

It never constitutes a stratum of itself, but is found in cracks and fissures of rocks, roofs of caverns, and sometimes in the horizontal vacuities of these strata, in form of a white porous powder.

Mineral agaric is a good astringent, and therefore prescribed in fluxes, hæmorrhages, to dry old ulcers, stop defluxions of the eyes, &c.

AGAT, *achates*, in natural history, a genus of semipellucid gems, variegated with veins and clouds, but without zones, like the onyx.

Agats are formed of a crystalline substance, variously debased with earths of different colours, to which is to be attributed the variety of their appearance. Thus, some have a white ground, as the *dendrachates* or mocca-stone, the *phasfachates*, and another species. Others have a reddish ground, as the *hæmachates*, *sardachates*, *corallo-achates*, &c. Others, again, a yellowish ground, as the *cerachates* and *leontesferes*. And, lastly, some have a greenish ground, as the *jaspachates*. A more particular account of all which may be seen under their several articles **DENDRACHATES**, **PHASACHATES**, **HÆMACHATES**, &c.

Agats have got peculiar denominations according to the different figures represented on them, their affinity to other gems, and the substance they most resemble in colour. Hence, the *dendrachates*, *sardachates*, *hæmachates*, &c.

AGAT is also the name of an instrument used by the gold wire-drawers; so called from the agat in the middle of it, which forms its principal part.

AGATTON, a town of Africa, on the coast of Guinea, situated near the mouth of the river Formosa, about eighty miles south of Benin.

AGAVE, the *aloe*, in botany. See **ALOE**.

AGDE, a small, but well inhabited city of France, in the province of Languedoc, near the mouth of the river Eraut, about thirty miles south-west of Montpellier. It is the see of a bishop.

AGE, in a general sense, denotes a certain portion, or part of duration, applied to the existence of particular objects: thus we say, the age of the world, the age of Rome, &c. that is, the time, or number of years, elapsed since the creation of the world, or the building of Rome. Thus, also a man's age is the time he has lived, or the number of years elapsed since his birth; and so in other instances, as the age of a house, the age of a tree, &c.

AGE, in horsemanship, makes a considerable

Fig. 1. ADIANTUM, or MAIDEN-HAIR.



Fig. 2. ADMIRAL-SHELLS.



Fig. 3. ETITES.



Fig. 4. AGARIC.



Fig. 5. AGERATUM.





nable point of knowledge; the horse being an animal that remarkably shews the progress of his years, by correspondent alterations in his body.

We have characteristics from his teeth, hoofs, coat, tail, and eyes.

1. The first year he has only small grinders and gatherers, of a brightish colour, which are called foal's teeth. The second year he changes his four foremost teeth, *viz.* two above, and two below, and they appear browner and bigger than the rest. The third year he changes the teeth next these, leaving no apparent foal's teeth before, but two above, and two below, on each side, which are all bright and small. The fourth year, he changes the teeth next these, and leaves no more foal's teeth before, but one above and below on each side. The fifth year his foremost teeth are all changed, and the tushes on each side are complete; and those which succeed the last foal's teeth are hollow, with a small black speck in the middle, which is called the mark in a horse's mouth, and continues till he is eight years old. The sixth year there appear new tushes, near which is visible some young flesh, at the bottom of the tush; the tushes being white, small, short, and sharp. The seventh year his teeth are at their full growth, and the mark in his mouth appears very plain. At eight all his teeth are full, plain, and smooth, and the black mark but just discernable; the tushes looking more yellow than ordinary. The ninth his foremost teeth shew longer, broader, yellower, and fouler than before, the mark quite disappearing, and the tushes bluntish. At ten no holes are felt on the inside of the upper tushes, which, till then, are easily felt. At eleven his teeth are very long, yellow, black, and foul, and stand directly opposite each other. At twelve the teeth of his upper jaw hang over those of his under. At thirteen his tushes are worn almost close to his chaps, if he has been much ridden; otherwise they will be long, black, and foul.

2. With regard to the hoof. If it be smooth, moist, hollow, and well sounding, it is a sign of youth; but if, on the contrary, it be rugged, and as it were, covered with seams one above another, and withal dry, foul, and crusty, it is a sign of old age.

3. If a joint about the stern of the tail, near the buttock, be felt to stick out more than the rest by the bigness of a

nut, you may conclude him under ten, but if the joints are all smooth he may be fifteen.

4. If the eyes are round, full, and, as it were, starting from his head, having no pits over them, but smooth and even with his temples, and free from wrinkles, both under and above, it is a certain mark of youth.

5. If the skin be taken up in any part between the finger and thumb, and, being let go, returns suddenly to its place, and remains without wrinkles, he may be judged to be young.

We may also judge of a horse's age, by looking on his palate; for if he is old, the roof of his mouth is lean and dry towards the middle, and those ridges, which, in young horses, are pretty high and plump, diminish as they increase in age; so that in very old horses, the roof of the mouth is nothing but skin and bone. — This last is a very necessary remark, especially in mares, which seldom have any tushes to discover their age by.

AGE of a hart, in hunting, is judged by the furniture of his head. — At a year old, there is nothing to be seen but bunches. At two, the horns appear more perfectly, but straiter and smaller. At three they grow into two spars; at four into three, and so increase yearly in branches, till they are six years old; after which their age is not certainly to be known by their head.

AGE is also used in a synonymous sense with century. See *CENTURY*.

AGE likewise denotes certain periods of the duration of the world.

Thus, among christian chronologers, we meet with the age of the law of nature, which comprehends the whole time between Adam and Moses; the age of the jewish law, which takes in all the time from Moses to Christ; and lastly, the age of grace, or the number of years elapsed since the birth of Christ.

Among antient historians, the duration of the world is also subdivided into certain periods, called ages; of which they reckon three: the first, reaching from the creation to the deluge which happened in Greece, during the reign of Ogyges, is called the obscure or uncertain age; the history of mankind, during that period, being altogether uncertain. The second, called the fabulous or heroic, terminates at the first olympiad; where the third, or historical age, commences.

The antient poets also divided the duration of the world into four ages, or periods; the first of which they called the golden age, the second the silver age, the third the brazen age, the fourth the iron age. Not unlike these are the four ages of the world, as computed by the East-Indians, who extend them to a monstrous length.

AGE also denotes certain degrees or periods of human life, commonly reckoned four, *viz.* infancy, youth, manhood, and old age. The first of which extends to the fourteenth year; the second, to the twenty-fifth year; the third, to the fiftieth year; and the fourth, to the seventy-fifth year, or rather, as long as a man lives. See the article *LONGEVITY*.

AGE, in law, signifies certain periods of life, when persons of both sexes are enabled to do certain acts, which for want of years and discretion they were incapable of before: thus, a man at twelve years of age, ought to take the oath of allegiance to the king, in a leet: at fourteen, which is his age of discretion, he may marry, choose his guardian, and claim his lands held in socage.

Twenty-one is called full age, a man or woman being then capable of acting for themselves, of managing their affairs, making contracts, disposing of their estates, and the like; which before that age they could not do.

A woman is dowable at nine years of age, may marry at twelve, and at fourteen choose her guardian.

If a man or woman acts in any of the above-mentioned capacities, before the time prescribed by law, he or she may retract at that time, otherwise they are supposed to agree to it anew, and it shall be deemed valid. Thus, if a man marries before fourteen, or a woman before twelve, they may either agree to the marriage, or not, at these several ages; and so in other cases.

At fourteen, a man may dispose of his personal estate by will, but not of lands. At this age too a man or woman is first capable of being a witness, and under it persons are not generally punishable for crimes, though they must satisfy the damage sustained by trespasses committed by them.

AGE-prier, *etatem precari*, is when an action being brought against a person under age, for lands descended to him, he, by motion or petition, shews the matter to the court, praying the action may be

staid till his full age; which the court generally agrees to. However, as a purchaser, a minor shall not have his age-prier; nor in any writ of assize, of dower, or petition; but he may in any action of debt.

By the civil law the case is otherwise, an infant or minor being obliged to answer by his tutor or curator.

Among the Romans it was unlawful to put up for any public office, or magistracy, unless the candidate had attained to a certain age; which differed according to the offices sued for. Hence the phrases consular age, prætorian age, &c. See the articles *CONSUL*, *PRÆTOR*, &c.

AGE of the moon, in astronomy, the time elapsed since her last conjunction with the sun. See the article *MOON*.

AGEMOGLANS, AGIAMOGLANS, or AZAMOGLANS, in the turkish customs, christian children raised every third year, by way of tribute, from the christians tolerated in the turkish empire.

The collectors of this odious tax used to take one child out of three, pitching always upon the most handsome.

The word *agemogians* properly signifies a barbarian's child; and out of their number, after being circumcised, and instructed in the religion and language of their tyrannical masters, are the Janizaries recruited. As to those who are thought unfit for the army, they are employed in the lowest offices of the seraglio.

AGEN, an antient city of France, in the province of Guienne, situated on the river Garonne, about sixty miles south-east of Bourdeaux. It is a bishop's see, and the capital of the Agenois.

AGENDA, among philosophers and divines, signifies the duties which a man lies under an obligation to perform: thus we meet with the agenda of a christian, or the duties he ought to perform, in opposition to the credenda, or things he is to believe.

Agenda is more particularly used for divine service; in which sense, we meet with *agenda matutina & vespertina*; that is, morning and evening prayers.

AGENDA, among merchants, a term sometimes used for a memorandum book, in which is set down all the business to be transacted during the day, either at home or abroad.

AGENT, in a general sense, denotes any thing which acts or produces an effect. See the articles *ACT* and *ACTION*.

Agents are either natural or moral.

Natural agents are all such inanimate bodies, as have a power to act upon other bodies, in a certain and determinate manner: such is fire, which has the invariable property or power to warm or heat. Moral agents, on the contrary, are rational creatures, capable of regulating their actions by a certain rule.

It is a celebrated question among philosophers, and divines, whether man be a free, or a necessary agent? It may be thus stated: man is a necessary agent if all his actions are so determined by the cause preceding each action, that not one past action could possibly not have come to pass, or have been otherwise than it was; nor one future action can possibly not come to pass, or be otherwise than it shall be. On the contrary, man is a free agent, if he be able at any time, under the circumstances and causes he then is, to do different things; or in other words, if he is not ever unavoidably determined in every point of time, by the circumstances he is in, to do that one thing he does, and not possibly to do any other. See the article FREE.

Which of these two definitions agrees to man, is a question of fact to be determined by what we experience in ourselves, with regard to the operations of our own minds. A late author pretends to reduce the latter definition to an absurdity.

AGENTS, among physicians and chemists, an appellation given to all kinds of menstruums.

AGENT is also used to denote a person entrusted with the management of an affair, whether belonging to a society, company, or private person; thus we say, agents of the exchequer, of the victualling office, &c.

AGENTS of bank and exchange, in the commercial polity of France, are much the same with our exchange-brokers.

AGENT and patient, in law, is said of a person who is the doer of a thing, and also the party to whom it is done. Thus, if a man who is indebted to another, makes his creditor his executor, and dies, the executor may retain so much of the goods of the deceased, as will satisfy his debt; by which means he becomes agent and patient; that is, the person to whom the debt is due, and the person who pays it.

AGERATUM, *maudlin*, in botany, a genus of the syngenesia polygamia æqualis

class of plants, with a monopetalous personated flower; and an oblong membranaceous fruit, divided into two cells, which contain a number of minute seeds, affixed to a placenta. See plate VII. fig. 5.

This plant is said to be good for incontinence of urine, on account of its astringent virtue; but is rarely prescribed in the present practice.

AGGA, or **AGONNA**, a British settlement on the gold coast of Guinea. It is situated under the meridian of London, in 6 degrees of north lat.

AGGER, in the antient military art, a bank or rampart, composed of various materials, as earth, boughs of trees, &c. The agger of the antients was of the same nature with what the moderns call lines.

AGGER was also used in several other senses, as for a wall or bulwark, to keep off the sea; for the middle part of a military road, usually raised into a ridge; and sometimes for the heaps of earth raised over graves, more commonly called *tumuli*.

AGGERHUYS, a city of Norway, capital of the province of the same name. It is subject to Denmark, and situated in 11° east longit. and 59° 30' north lat.

AGGLUTINANTS, *agglutinantia*, in pharmacy, &c. make a class of strengthening medicines, of a glutinous or viscous nature; which, by readily adhering to the solids, contribute greatly to repair their loss.

Agglutinants may be divided into two kinds: 1. Good nourishing foods, especially jellies, whether of hartshorn, veal, mutton, &c. 2. Medicines, properly so called, as olibanum, dragon's blood, gum tragacanth, cassia, comfrey, plantain, and others of the same intention.

AGGLUTINANTS, among surgeons, denote much the same with vulneraries. See the article VULNERARY.

AGGLUTINATION, in a general sense, denotes the joining two or more things together, by means of a proper glue or cement.

AGGLUTINATION, among physicians, signifies either the adherence of new substance, or the giving a glutinous consistence to the animal fluids, whereby they become more fit for nourishing the body. See the article AGGLUTINANTS.

Agglutination, according to some, is effected by a fermentation; whilst others

attribute such a glutinous nature to the chyle, that a bare contact suffices to make it adhere.

AGGLUTINATION is also a term used by astronomers, to denote the meeting of two or more stars in the same part of the zodiac, or the same coalition of several stars.

AGGRAVATION, a term used to denote whatever heightens a crime, or renders it more black.

AGGREGATE, in a general sense, denotes the sum of several things added together, or the collection of them into one whole. Thus, a house is an aggregate of stones, wood, mortar, &c. See the article **AGGREGATION**.

An aggregate differs from text, mixt, or compound; in as much as the union in these last is more intimate, than between the parts of an aggregate. See the article **TEXT**, &c.

AGGREGATION, in natural philosophy, a species of union, whereby several things, nowise connected by nature, are collected together so as to form one whole.

AGGREGATION is also used in a figurative sense, for an association, or the adding new members to a society already established.

AGGRESSOR, among lawyers, denotes the person who began a quarrel, or made the first assault.

It is a very material point to know who was the first aggressor, and accordingly never fails to be strictly enquired into.

AGHRIM, a town of Ireland in the county of Wicklow, and province of Leinster, situated about thirteen miles south-west of Wicklow.

AGIADES, in the turkish armies, denote a kind of pioneers, employed in fortifying camps, and the like offices.

AGILD, or **AGILDE**, in old law-books, denotes a person of so little account, that whoever killed him was liable to no fine for so doing.

AGILITY, *agilitas*, signifies an aptitude of the several parts of the body to motion; or it may be defined, the art or talent of making the best use of our strength.

AGINCOURT, a village of the french Netherlands; famous on account of the victory obtained by Henry V. of England, over the French, in 1415.

AGIO, in commerce, a term chiefly used in Holland and at Venice, where it de-

notes the difference between the value of bank stock, and the current coin.

Money in bank is commonly worth more than specie: thus, at Amsterdam, they give 103 or 104 florins for every 100 florins in bank. At Venice, the agio is fixed at 20 per cent.

Agio is also used for the profit arising from the discounting a note, bill, &c. See the articles **BILL** and **DISCOUNT**.

Agio of assurance, is the same with what we call policy of assurance. See the article **POLICY**.

AGIOSYMANDRUM, in the greek church, subject to the Turks, a wooden machine, used instead of bells, the use of these being prohibited.

AGIST, **AGISTMENT**, **AGISTAGE**, or **AGISTATION**, in law, the taking in other people's cattle to graze, at so much per week.

The term is peculiarly used for the taking in cattle to be fed in the king's forests, as well as for the profits thence arising.

AGISTMENT is also used in a metaphorical sense, for any tax, burden, or charge: thus, the tax levied for repairing the banks of Romney marsh was called *agistamentum*.

AGISTOR, or **AGISTATOR**, an officer belonging to forests, who has the care of the cattle taken in to be grazed, and levies the monies due on that account.

There are four such agistors in each forest all created by letters patent, and commonly called guest-takers, or gift-takers.

AGITATION, *agitatio*, the act of shaking a body, or tossing it backwards and forwards.

Agitation greatly assists several operations of nature. By it butter is made out of milk. Digestion too is reckoned an insensible kind of agitation.

The agitation of the body is deemed one mark of inspiration. See **INSPIRATION**.

AGITATION, among antient physicians, denotes a kind of exercise, generally called swinging, which they put in practice when the patient could use no other exercise.

AGITATOR, in antiquity, a term sometimes used for a charioteer, especially those who drove in the circus at the curule games.

AGITATORS, in the english history, certain officers set up by the army in 1647, to take care of its interests.

Cromwell

Cromwell joined the agitators, only with a view to serve his own ends ; which being once accomplished, he found means to get them abolished.

AGLECTS, **AGLETS**, or **AGLERDS**, among botanists, the same with what is more usually called apices. See **APICES**.

AGMEN, in the roman art of war, denoted an army, or rather a part of it, in march : thus we read of the *primum agmen*, or van-guard ; *medium agmen*, or main body ; and the *postremum agmen*, or rear-guard. We also meet with the *agmen pilatum*, which was a part of the army, drawn up in form of an oblong parallelogram, and answered to what the moderns call column. However, the *agmen quadratum*, or square form, was that mostly practised in the roman armies.

AGMONDESHAM, in geography. See the article **AMERSHAM**.

AGNABAT, a town of Transylvania, subject to the house of Austria, situated about ten miles north-east of Hermanstadt.

AGNATION, *agnatio*, among civilians, denotes the relation of kinship subsisting between the descendants of the same man, in the male line.

AGNOETÆ, in church-history, a sect of heretics, so called on account of their maintaining, that Christ, with respect to his human nature, was ignorant of many things, and particularly of the day of judgment, an opinion which they built upon the text, Mark xiii. 32. whereof the most natural meaning is, that the knowledge of the day of judgment does not concern our Saviour, considered in the character of Messiah.

AGNOMEN, in roman antiquity, a kind of fourth or honorary name, given to a person on account of some extraordinary action, virtue, or other accomplishment. Thus the agnomen Africanus was bestowed upon Publius Cornelius Scipio, on account of his great achievements in Africa. In cases of adoption, it was usual to retain their former cognomen, or family name, by way of agnomen : thus Marcus Junius Brutus, being adopted by Quintus Servilius Cæpio, called himself Quintus Servilius Cæpio Brutus.

Some contend, that the agnomen was the third in order of three roman names : thus, in Marcus Tullius Cicero, that Marcus is the prænomen, Tullius the nomen, and Cicero the agnomen ; and others are of opinion, that the agnomen is the same with the cognomen.

AGNUS, the lamb, in zoology, the young

of the sheep-kind ; for the proper treatment of which, see the article **LAMB**.

AGNUS castus, in botany, &c. a name given to the vitex, on account of its efficacy in preventing loose venereal desires, pollutions, &c. See the article **VITEX**. During the feast of Ceres, the athenian ladies, who made professions of chastity, lay upon the leaves of *agnus castus* : and to this day the monks and nuns are said to use them for the same purpose.

AGNUS dei, in the church of Rome, a cake of wax, stamped with the figure of a lamb supporting a cross.

These being consecrated by the pope with great solemnity, and distributed among the people, are supposed to have great virtues ; as to preserve those who carry them worthily, and with faith, from all manner of accidents ; to expel evil spirits, &c.

What an admirable expedient to drain the purses of the credulous laity, and fill those of the clergy !

Agnus dei is also a popular name for that part of the mass, where the priest strikes his breast thrice, and says the prayer beginning with the words *agnus dei*.

AGNUS scythicus, in natural history, the name of a fictitious plant, said to resemble a lamb, and to grow in Tartary.

The usual account given of this extraordinary production is, that the Tartars sow in their ground a seed resembling that of melon, but less oblong ; from whence arises a plant called by them Borometz ; *i. e.* lamb, growing almost to the height of three feet, and having feet, hoofs, ears, and the whole head, excepting horns, resembling that animal. In lieu of horns it has a peculiar sort of hair, not unlike horns ; it is covered with a fine thin skin, which being pulled off, is worn by the natives as a cover for the head. The pulp within resembles that of the Gammarus ; and when wounded, a liquor oozes out like blood. It lives as long as there is grass and herbage around it ; but when these are consumed, it wastes and dies. Add, that wolves are fond of it, while no other beasts will feed on it.

Kæmpfer, who was in the country, could not, by the most diligent enquiry, find any account of it : and therefore concludes the whole to be a fiction.

As to the curiosities shewn under this name, they can be nothing else but the capillary roots of certain plants helped out by art.

AGOGÉ,

AGOGÉ, among antient musicians, a species of modulation, wherein the notes proceeded by contiguous degrees.

There are three kinds of agoge: 1. When the notes rise from grave to acute, as, B C D E, called by the antients *ductus relictus*, and by the modern Italians *conducimento retto*. 2. When they fall from acute to grave; as E D C B, called by the antients *ductus revertens*, and by the modern Italians *conducimento ritornante*. 3. When they rise by flats and fall by sharps, called by the antients *ductus circumcurrens*, and by the modern Italians *conducimento circumconcurrente*.

AGON, in the public games of the antients, a term used indifferently for any contest or dispute, whether respecting bodily exercises, or accomplishments of the mind. Thus poets, musicians, &c. had their agones, as well as the athletæ.

Games of this kind were celebrated at most of the heathen festivals, and not unfrequently by themselves, either annually, or at certain periods of years: of this last kind were the *agon gymnicus* at Athens, the *agon nemeus*, *agon neronianus*, *agon solis*, &c.

AGON was also used for one of the ministers employed in the heathen sacrifices, whose business it was to strike the victim.

AGONALES, or **AGONENSES**, in roman antiquity, the same with the *salii*. See the article *SALII*.

AGONALIA, in roman antiquity, festivals celebrated in honour of Janus, or of the god Agonius, whom the Romans invoked before undertaking any affair of importance.

They seem to have been kept three times in the year, *viz.* on the 5th of the ides of January, on the 12th of the calends of June, and on the third of the ides of December.

AGONISTARCHA, in antiquity, the officer who directed the preparatory exercises of the athletæ; though some make him the same with the *agonotheta*. See *AGONOTHETA*.

AGONOTHETA, **AGONODICA**, or **AGONOTHETES**, in grecian antiquity, was the president or superintendant of the sacred games; who not only defrayed the expences attending them, but inspected the manners and discipline of the athletæ, and adjudged the prizes to the victors.

At first there was only one *agonotheta*, in the olympic games; but several colleagues were afterwards joined with him, three of whom had the direction of the

horse races, three others of the pentathlon, and the rest of the other exercises.

AGONUS, in ichthyology, the name of a fish of the herring kind; being a species of *clupea*, with black spots on both sides. See plate VIII. fig. 1. and the article *CLUPEA*.

AGONY, among physicians, denotes extreme pain, or the utmost efforts of nature, struggling with a disease.

Agony, in a more limited sense, is used for the pangs of death; which are less painful than usually imagined, the body being then incapable of quick sensations. However, various means have been thought of for mitigating the agony of death. Lord Bacon considers this as part of the province of a physician; and that not only, when such a mitigation may tend to a recovery, but also when, there being no further hopes of a recovery, it can only tend to make the passage out of life more calm and easy.

Opium has been applied for this purpose, with the applause of some, but the condemnation of more. Baglivi promised a treatise express, *de medicina Agonizantium*, or the method of treating those in the agonies of death. Some think a medicine might be found out, which would alleviate the pains of death, without accelerating it, or which might even tend at the same time to retard it. But perhaps one of the best recipe's for this end, is that of M. Patin, *viz.* abstinence from all medicines.

AGONYCLITÆ, or **AGONYCLITES**, in church-history, a sect of christians, in the seventh century, who prayed always standing, as thinking it unlawful to kneel.

The word is greek, of the above import.

AGORANOMUS, *αγορανομος*, in grecian antiquity, a magistrate of Athens who had the regulation of weights and measures, of the prices of provisions, &c.

The *agoranomus* answered in part to the *ædile* of the Romans. See *ÆDILE*.

Some make the *agoranomi* only ten in number, five to the city, and as many to the *pyreus*; whereas others make them fifteen.

AGRA, a city of the hither India; and capital of a kingdom of the same name. It is situated on the river Jemma, and is a large, populous, and beautiful city, where the mogul frequently resides.

AGRAM, a city and bishop's see of Hungary, situated near the frontiers of Carniola.

AGRARIAN, in a general sense, denotes

semg-

something belonging to, or connected with, lands. Thus,

Agrarian stations, agrariæ stationes, in the roman art of war, were a kind of advanced guards, posted in the fields.

AGRARIAN laws, among the same people, those relating to the division and distribution of lands; of which there were a great number, but that called the *agrarian law*, by way of eminence, was published by Spurius Cassius, about the year of Rome 268, for dividing the conquered lands equally among all the citizens, and limiting the number of acres which each citizen might enjoy.

Harrington, in his *Oceana*, thinks an agrarian law the only basis of liberty; through the want of which, or the non-observance of it, the common-wealth of Rome came to ruin. He likewise lays down the plan of an agrarian law for England, whereby no man should be allowed to possess more than 2000 *l.* a year in lands.

AGRARIUM, the same with agistment. See the article **AGISTMENT**.

AGREEMENT, in law, signifies the consent of several persons to any thing done, or to be done.

There are three kinds of agreement. First, an agreement already executed at the beginning, as when money is paid, or other satisfaction made for the thing agreed to. Secondly, an agreement after an act done by another, to which a person agrees: this is also executed. Thirdly, an agreement executory, or to be executed in time to come.

An agreement put in writing does not change its nature, but if it be sealed and delivered it becomes still stronger, nay, any writing under hand and seal, or a proviso amounting to an agreement, is equivalent to a covenant.

AGRESSES, or OGRESSES, in heraldry, a term sometimes used for pellets. See the article **PELLETS**.

AGRIA, a town and river of upper Hungary. The town is a bishop's see, and situated about thirty-five miles N. E. of Buda.

AGRICULTURE, in a general sense, denotes the art of rendering the earth fertile, by tillage and culture.

In which sense, it comprehends gardening, as well as husbandry. See the articles **GARDENING** and **HUSBANDRY**.

AGRICULTURE is more particularly used for the management of arable lands, by

ploughing, fallowing, manuring, &c. See the article **PLOUGHING, &c.**

Agriculture is a no less honourable than profitable art, held in the highest esteem among the antients, and equally valued by the moderns.

The Egyptians ascribed the invention of agriculture to Osiris, the Greeks to Ceres and her son Triptolemus, and the Italians to Saturn or Janus. But the Jews, with more reason, ascribe this honour to Noah, who, immediately after the flood, set about tilling the ground and planting vineyards.

Agriculture has been the delight of the greatest men. We are told, that Cyrus the younger planted and cultivated his garden, in a great measure, with his own hands; and it is well known, that the Romans took many of their best generals from the plough.

But not to detain the reader with a needless encomium of this universally admired art, we shall here subjoin its principal branches, which will be treated of under their respective articles.

Agriculture, then, may be subdivided into the proper management, 1. Of all kinds of arable lands, whether of a clayey, sandy, loamy, or whatever other soil. See the articles **CLAY-LANDS, SANDY-LANDS, &c.**

2. Of lands employed in pasturage, whether they be meadow lands, marshy lands, &c. See **MEADOW, &c.**

3. Of wood-lands, or those laid out in nurseries, plantations, forests, woods, &c. See the article **WOOD, &c.**

AGRIÆ, in natural history, an order of quadrupeds which have no teeth, but have a very long and cylindric tongue. Of this order there are only two known genera, the myrmecophaga, and the manis. See the articles **MYRMECOPHAGA** and **MANIS**.

AGRIFOLIUM, in botany, the same with aquifolium. See **AQUIFOLIUM**.

AGRIMONIA, in botany. See the article **AGRIMONY**.

AGRIMONOIDES, in botany, a species of agrimonia, with rosaceous flowers, which, together with their cups, are received into another funnel-fashioned cup, fimbriated at the edges. The proper cup of the flower at length becomes a pointed, oval fruit, usually containing only one seed. See plate VIII. fig. 2.

It flowers in April, comes to perfection in May, and grows in some mountainous parts

parts of Italy ; as to its medical virtues it agrees with agrimony. See the next article.

AGRIMONY, *agrimonia*, in botany, a genus of the dodecandria digynia class of plants with rosaceous flowers, the cup of which at length becomes an oblong echinated fruit, containing one or two oblong seeds. See plate VIII. fig. 3.

Agrimony-leaves make a very pleasant tea, said to be good in the jaundice, in cachectic cases, and in obstructions of the liver and spleen. The country people also use it, by way of cataplasm, in contusions and fresh wounds.

AGRIPPA, a denomination given by ancient as well as modern physicians, to children born with the feet foremost. See the article **DELIVERY**.

Notwithstanding what some alledge, this kind of birth is certainly very dangerous ; and, therefore, ought to be carefully avoided by the skilful midwife.

AGROM, in medicine, a disorder incident to the people of the East-Indies, wherein their tongues cleave in several places.

The remedy for this disease, which they attribute to an extreme heat in the stomach, is to chew the black seeded basilica, and to drink a chalybeated liquor, or the juice of large mint.

AGROSTEMA, in botany, a distinct genus of plants, according to Linnæus ; but comprehended among the *lychnis*'s by Tournefort. See the article **LYCHNIS**.

AGROSTIS, in botany, a genus of the triandria digynia class of plants, the calyx of which is composed of a glume, consisting of two valves, and inclosing a single flower ; it is of an acuminate figure ; the corolla is also of an acuminate figure, and composed of two valves ; it is scarce so long as the cup, and one of the valves is larger than the other, and aristated ; the corolla serves in place of a pericarpium ; it surrounds and every way incloses the seed, which is single, roundish, and pointed at each end.

AGROSTOGRAPHIA, among naturalists, signifies the history or description of grasses. Such is that of Scheuchzer, containing an accurate description of several hundreds of species of grass.

AGRYPNIA, in a general sense, denotes much the same with watchfulness, or an inaptitude to sleep ; which is a very troublesome symptom of feverish, and other disorders. See the article **WATCHING**.

AGRYPNIA, in the greek church, the vigil

of any of the greater festivals.

AGUE, a general name for all periodical fevers, which, according to the different times of the return of the feverish paroxysm, or fit, are denominated quotidian, tertian, or quartan agues. See the article **QUOTIDIAN**, &c.

Agues are thought to be owing to a suppression of perspiration, as their more immediate cause, whether that be occasioned by a foggy and moist air, or by putrid damps ; but their *causa proxima* seems to be an actual corruption of the humours of the body.

Dr. Pringle thinks the best way of accounting for the periodic returns, is upon the principle of putrefaction. The heat of the body, he observes, varies little, and therefore the corruption produced in any of the humours must happen in a determinate time. If we suppose, that in the paroxysm the more corrupted particles of the blood do not at all pass off through the skin with the sweat, but that some part of them are discharged with the bile ; these particles coming into the intestines, and being from thence taken up by the lacteals, and carried into the blood, may there act as a new ferment, and occasion a return of the fit. Thus, the corruption of the bile may be the effect of the first fit, and the cause of those that ensue.

The doctor farther observes, that though all moist countries are subject to agues of some kind or other ; yet if the moisture is pure, and the summers are not close and hot, they will mostly appear in a regular tertian shape, and be easily cured. But if the moisture arises from long stagnating water, in which plants, fishes and insects die and rot, then the damps, being of a putrid nature, not only occasion more frequent, but more dangerous fevers, which oftener appear in the form of quotidians, and double tertians, than that of single ones.

It is remarkable, how much these fevers vary with the season ; for however frequent, violent, or dangerous they are in the decline of summer, or beginning of autumn, when the putrefaction is highest ; yet before winter they are commonly reduced to a small number, become mild, and generally assume a regular tertian form.

AGUEPERSE, a town of France, situated in the Lyonnais, about fifteen miles north of Clermont.

AGUTI, in zoology, an american quadruped



Fig. 4. AHOUAI.



Fig. 5. ATEREBA.





draped of the rat-kind, of the size of the guinea-pig, which it greatly resembles. Its hairs are rigid and glossy, of a mixed colour between red and brown, with more or less of black. Its whiskers are like those of the rabbit-kind; but like the hog, its upper chop is longer than the under one. Its upper lip is split, like that of the hare. Its tail is very short, the eyes are prominent, and the legs are altogether or almost naked. See plate IX. fig. 6.

AHOUI, in botany, the name of Tournefort for a genus of plants, called by Linæus *cerbera*; the flower of which consists of one infundibuli-form or funnel-fashioned leaf; and its fruit, which somewhat resembles a pear, contains a triangular kernel. See plate VIII. fig. 4. and the article **CERBERA**.

AHUYS, a sea-port town of Sweden, in the province of Gothland, situated in E. longitude 14° . and N. longitude 56° .

AJAZZO, the name of two towns, the one in the island of Corsica, and the other in lesser Asia, about fifty miles west of Aleppo.

AID, in a general sense, denotes any kind of assistance given by one person to another.

AID, or **AYDE**, in law, denotes a petition made in court to call in help from another person, who has interest in land, or other thing contested. This is called *aid prier*, which not only strengthens the party that prays for the aid, but gives the other person an opportunity of avoiding a prejudice that might otherwise accrue to his own right. Thus, a tenant for life may pray aid of the person in reversion; and a city or borough, that holds a fee-farm of the king, if any thing be demanded of them, may pray for aid of the king.

AID de-camp, in military affairs, an officer employed to receive and carry the orders of a general. They ought to be alert in comprehending, and punctual and distinct in delivering them.

In the french armies, every general is allowed four aids de camp, a lieutenant-general two, and a marshal-de-camp one.

AID-major, the french term for an adjutant. See the article **ADJUTANT**.

AID, *auxilium*, in antient customs, a subsidy paid by vassals to their lord, on certain occasions.

Such were the aid of relief, paid upon the death of the lord mesne, to his heir; the *aid cheval*, or capital aid, due to the

chief lord on several occasions, as to make his eldest son a knight, to make up a portion for marrying his daughter; and so in other cases.

Royal AID, an appellation sometimes given to the land-tax.

AIDS, in the french customs, certain duties paid on all goods exported or imported into that kingdom.

Court of AIDS, in France, a sovereign court established in several cities, which has cognizance of all causes relating to the taxes, gabels, and aids.

AIDS, in the manege, are the helps or assistances, by which the horseman contributes towards the motion or action required of the horse, by a discreet use of the bridle, cavesson, spur, poinçon, rod, calf of the leg, and voice.

The inner heel, inner leg, inner rein, &c. are called inner aids; as the outer heel, the outer leg, outer rein, &c. are called outer aids.

AIEREBA, in ichthyology, a fish of the *pastinacha marina* kind, the body of which is of a regular oval or round shape, and its head placed far within the verge of the thin part. See plate VIII. fig. 5.

AIGUISCE, **AIGUISSE'**, or **EGUISCE'**, in heraldry, denotes a cross with its four ends sharpened, but so as to terminate in obtuse angles.

It differs from the cross fitchée, in as much as the latter goes tapering by degrees to a point, and the former only at the ends.

AILE, or **AIEL**, in law, a writ which lies where a person's grand-father, or great-grand-father being seized of lands, &c. in fee-simple the day that he died, and a stranger abates or enters the same day, and dispossesses the heir of his inheritance.

AILESBURY, the county-town of Buckinghamshire, situated near the Thames, about forty four miles west of London. It sends two members to parliament, and gives the title of earl to the noble family of Bruce. W. longitude 40° . N. latitude 51° . $40'$.

AIR, *aër*, in physiology, a thin elastic fluid, surrounding the globe of the earth. It is no easy task to ascertain the nature and origin of air, as being a fluid imperceptible to all our senses, except that of feeling. Indeed, from the resistance and impression it makes, we know that there is such a body, which every where surrounds our earth, and is of the utmost

importance not only to mankind, in promoting many useful arts, but absolutely necessary to the preservation of animal life itself.

The best account we have of the origin of air, is that of Mr. Boyle, who supposes it to be made up of three different kinds of corpuscles, *viz.* 1. Of those numberless and minute particles, which, in the form of vapours or dry exhalations, ascend from the earth, water, minerals, vegetables, animals, &c. in short, of whatever substances are elevated by the celestial or subterraneous heat, and thence diffused into the atmosphere. 2. Of a still more subtle matter, consisting of those exceedingly minute atoms, the magnetical effluvia of the earth, with other innumerable particles sent from the bodies of the celestial luminaries, and causing, by their impulse, the idea of light in us. 3. Of an elastic substance, which is the basis of all the other parts, and constitutes the true essence of air, concerning the structure of which various hypotheses have been framed. Some have resembled these elastic particles to the springs of watches coiled up, and endeavouring to restore themselves; others to flocks of wool, which being compressed, have an elastic force; and others, to slender wires, of different substances, consistences, &c. yet all springy, expansible and compressible.

That the air was created at first with the earth itself is not to be doubted; and that ever since, there has been a constant generation of particles of air by the mutual action of bodies upon each other, as in fermentation, and all kinds of natural and artificial chemistry, sir Isaac Newton thinks very reasonable to suppose; and Mr. Boyle has given numerous experiments relating to the production of artificial or factitious air. See the articles FERMENTATION, DISTILLATION, &c. Among the artificial methods of producing air, the fittest for practice seem to be fermentation, corrosion, and the dissolution of bodies, by the boiling of water and other liquors; by the mutual action of bodies upon one another, especially saline ones; and lastly, by analysing and resolving certain substances.

It appears from the experiments made by the late learned Dr. Hales, that different bodies contain different quantities of air, from a sixteenth to one half of their whole substance. In the following table, the first column shews the bulk of the body

in cubic inches; the second, its weight in grains, the third, the quantity of generated air in cubic inches; the fourth, the weight of this air in grains; and the fifth shews the proportion which it bears to the whole.

| Substances. | C. Inches | Grains. | C. Inches | Grains. | Propor. |
|---------------------------|---------------|---------|-----------|---------|----------------|
| Deer's horn | $\frac{1}{2}$ | 241 | 117 | 33 | $\frac{1}{7}$ |
| Oyster-shell | $\frac{1}{2}$ | 266 | 162 | 46 | $\frac{1}{6}$ |
| Heart of oak | $\frac{1}{2}$ | 135 | 108 | 30 | $\frac{1}{6}$ |
| Indian wheat | — | 388 | 270 | 77 | $\frac{1}{5}$ |
| Pease | 1 | 318 | 396 | 113 | $\frac{1}{5}$ |
| Mustard-seed | — | 437 | 270 | 77 | $\frac{1}{6}$ |
| Amber | $\frac{1}{2}$ | 135 | 135 | 38 | $\frac{1}{3}$ |
| Dry tobacco | — | 142 | 153 | 44 | $\frac{1}{3}$ |
| Honey, with calx of bones | 1 | 359 | 144 | 41 | $\frac{1}{9}$ |
| Yellow wax | 1 | 243 | 54 | 15 | $\frac{1}{16}$ |
| Coarse sugar | 1 | 373 | 126 | 36 | $\frac{1}{10}$ |
| Newcastle coal | $\frac{1}{2}$ | 158 | 180 | 51 | $\frac{1}{3}$ |
| Nitre, with calx of bones | $\frac{1}{2}$ | 211 | 90 | 26 | $\frac{1}{8}$ |
| Rhenish tartar | 1 | 443 | 504 | 144 | $\frac{1}{3}$ |
| Calculus humanus | $\frac{1}{4}$ | 230 | 516 | 147 | $\frac{1}{2}$ |

Properties of Air. Air being an universal and powerful instrument, which nature is constantly applying in all her works, the knowledge of its active properties is highly necessary not only to the chemist and physician, but to the philosopher and divine.

1. Fluidity, then, which is one of the most obvious and essential properties of air, seems to be owing to the tenuity of its parts. That air is a fluid, appears from the easy passage it affords to all bodies moving in it. However, air differs from all other fluids, in being compressible, in its differing in density according to its height from the earth's surface, and in being incapable of fixation, at least by itself. It is of a different density in every part, decreasing from the earth's surface upwards; whereas other fluids are of an uniform density throughout. The air is therefore a fluid *sui generis*. See the articles FLUID, COMPRESSION, CONDENSATION, CONDENSER, CONGELATION, DENSITY of the air, and ATMOSPHERE.

2. Gravity, another considerable property of

of air, may be proved from various experiments upon the air-pump; the principal of which are as follow. 1. By actually weighing it in a nice balance, where we shall see, that one gallon of air will weigh a dram very nearly. 2. By filling a glass tube with mercury, and inverting it in a basin of the same fluid, where it will appear, that a column will be supported in the tube, by the sole weight or pressure of the air, to upwards of the height of twenty-eight inches. 3. By taking the air off the surface of the quicksilver in the gage of the air-pump, which then immediately rises by the pressure of the external air. 4. By exhausting a receiver placed over the hole of the brass plate on the pump, which will then be kept fast by the pressure of the incumbent air. Or, 5. More demonstratively, by exhausting a small receiver under one larger, and letting in the air at once upon it, which will then be fastened to the plate as before, though not placed over the hole. 6. By placing the hand on the open receiver, and exhausting, the weight of the air on the hand, will be extremely sensible. 7. By placing a piece of thin glass or a bladder on the said open receiver, which, when the air is a little exhausted, will be broke into pieces by the weight of the incumbent air. 8. The air, exhausted from a thin bottle under a receiver, and then suddenly let in, will, by its weight, instantly reduce it to very small pieces. 9. By putting a piece of wood under quicksilver in the receiver, and then exhausting the air, and letting it in again, it will, by its weight, force the quicksilver into the pores of the wood, and very sensibly increase its weight. 10. The exhausted brass hemispheres prove not only the prodigious weight of the air, but also the quantity thereof very exactly. 11. By exhausting glass-bubbles, swimming in water, and letting the air in again, it will force the water into the bubbles, and make them sink. 12. The syringe, with its weight descending in vacuo, and ascending again upon the admission of air, does very prettily prove the pressure of the air, and the rationale of syringes in general. See *SYRINGE, GRAVITY, &c.*

That water rises in pumps, siphons, and all kinds of water engines, by the pressure of the air only, is made evident by taking off the said pressure, in the exhausted receiver, from a basin of mercury, which then will not rise in the pipe of the

syringe on drawing up the piston, as it will in the open air. See *PUMP, SIPHON, FOUNTAIN, and ENGINE.*

However, as the air is an heterogeneous fluid, its weight must vary according to its different component parts; hence an instrument called a barometer, has been invented to shew this variation. See the article *BAROMETER.*

3. Elasticity, a third essential property of air, is also demonstrable from various experiments of the like kind. 1. By the great expansion of a small quantity of air in an emptied bladder, when the air is taken off from the external parts in the receiver. 2. By the extrusion of a fluid out of a glass-bubble, by the expansion of the bubble of air contained therein. 3. By the expulsion of the white and yolk of an egg through a small hole in the little end, by the expansion of the air contained in the great end; and also, by raising up the skin of the egg, (after the yolk is taken away, and one half of the shell) by the expansion of the said included bubble of air, so as almost to fill the half shell. 4. Glass-bubbles and images, filled with water, so as to make them just sink in water, will, upon exhausting the air from the surface, rise to the top of the vessel. 5. Also a bladder, filled with air, and just made to sink with a weight, will, upon exhaustion, soon rise by the expansion of the contained air. 6. Beer, cyder, water, and porous bodies do emit great quantities of air under the exhausted receiver. 7. Fishes are made so light or buoyant, by increasing the spring of the air in their bladders, that they rise to the top of the water, and cannot again descend to the bottom. 8. But that curious experiment, which shews the force of the spring of the air to be equal to its weight or pressure, is by raising the mercury by the expansion of a small quantity of confined air to the same height in an exhausted tube above the air-pump, as that which it is raised to in the mercurial gage by the pressure of the atmosphere below it.

Mr. Boyle has determined the difference between the most rarified and most condensed air, to be as 1 to 520000: since therefore, after so high a degree of rarefaction and condensation, its elasticity still remains, we may fairly conclude air to be an unchangeably elastic, moveable fluid, constantly operating in, and upon all bodies, by its own peculiar vibratory motion.

Heat is found to increase the elasticity of air, and cold to have a quite contrary effect: hence appears the use of the thermometer for indicating the various degrees of both. See THERMOMETER.

The great action of animal life, *viz.* breathing, by inspiration and expiration of air, is owing to the pressure and spring of the air conjointly, as is evident by the contraction and expansion of a bladder in a small receiver, with a bladder tied on at the bottom to represent the diaphragm. See the article DIAPHRAGM.

That air, passing through the fire and heated brass tube, is unfit for animal respiration, is shewn by the sudden death of any animal put into a receiver filled therewith. Also candles and live coals, put into this adust air, immediately go out. Hence the noxious and pestiferous qualities of damps and suffocating exhalations, so fatally experienced in mines and other subterranean places. See DAMPS, EXHALATION, and MINE.

That the different velocities, with which heavy and light bodies descend in the air, is owing to the air's resistance only, is manifest from the equal velocity or swiftness with which all bodies descend in the exhausted receiver, as is shewn in the experiment of a guinea and a feather. See the article DESCENT.

That fermentation, putrefaction, &c. depend on the air, and are promoted by it, is shewn by preserving fruit in their natural bloom and perfection through the winter in an exhausted glass. See FERMENTATION, PUTREFACTION, &c.

The use of the diving-bell depends upon the spring and force of the air; for since the space, which the air takes up, is reciprocally as the power compressing it, it is evident, that, at the depth of thirty-three feet of water, where the pressure of the atmosphere is doubled, the bell will be half filled with water; at the depth of sixty-six feet, it will be two thirds filled; at the depth of ninety-nine feet, it will be three-fourths filled; and so on. See the article DIVING-BELL.

The spring of the air is most evidently concerned in that chirurgical operation, called cupping; for which a vacuum is made by a syringe in the cupping-glass applied to that part, the spring of the air in the flesh under the glass does strongly act, and by that means causes the flesh to distend and swell into the glass, while the pressure of the air, on the parts without the glass, accelerates the motion of

the blood and fluids towards the part where it is diminished or taken off by the glass. See the article CUPPING.

From this account of the air, and its properties, many curious appearances may be understood.

1. Air, as a fluid body, is the vehicle of the effluvia of all odorous bodies to the organs of smelling; and, as a ponderous fluid, it presses them on the nerves of those organs, with a force sufficient to make them sensible. It also impresses sapid substances upon the organs of taste, and renders them observable by the senses. It is also the instrument of sound; for the undulations, caused in it by bodies moved by various directions, strike upon the external ear, which, by a singular mechanism, communicates this notice to the nerves expanded upon the internal ear. This weight of the air also, by pressing upon the surface of animals and vegetables, prevents a rupture of their vessels, from the force necessary to circulate their juices, to which it is, as it were, a counter-balance. All these things are evident, because, on the tops of high mountains, where the air is very rare, the senses of smelling, tasting, and hearing are very languid. On the tops of mountains also the blood vessels are very subject to burst, whence frequent hæmorrhages happen to those who travel to their summits. See the articles SMELL, TASTE, HEARING, &c.

2. The air, by its elasticity, contributes greatly to the solution of the aliment in the stomachs of animals. For, when that which is contained in every part of the food is rarified and expanded by the heat it meets with in the stomach, it destroys the cohesion of the component particles, and assists in reducing it to a state of fluidity. At the same time, as it is confined in the stomach, all its action must be determined to the aliment, which it must therefore act upon with great force in this rarified state. See STOMACH, RAREFACTION, DIGESTION, &c.

3. Respiration, so necessary to the continuance of the animal life, is performed by means of the air. For, when the air is expelled out of the lungs, the pulmonary vessels, through which the blood circulates from the right ventricle of the heart, and by which it is returned to the left auricle, collapse, and are no longer pervious, till the air, rushing into the branches of the aspera arteria upon the elevation of the breast, distends the lungs, and

and thereby opens not only the air-vessels, but also the branches of the pulmonary vein and artery, which accompany every where those of the aspera arteria. Here the air, as a heavy fluid, acts upon, compresses, and comminutes the blood; and, as it is elastic, and dilatable by heat, the action of it upon the blood in the lungs, is, by this property, rendered greater. See RESPIRATION, CIRCULATION, &c.

4. If we consider the air in all lights, we shall find, that every alteration it undergoes must induce some great change on the animal machine. Thus when it is very heavy, it must press upon the surface of our bodies, and the internal part of the lungs, with a greater force than when it is light. It has been proved by curious observations, that the difference of weight, with which our bodies are pressed by the atmosphere, in the greatest degree of its natural gravity, from that which we sustain when it is lightest, amounts to $3982 \frac{1}{2}$ pounds troy-weight. Now as this difference is very great, the effects of it must also be considerable.

5. The different degrees of heat and elasticity in the air must have effects proportionable to the causes upon the bodies of animals. The various contents also of the air must of course induce great changes, as it some way or other finds means to communicate the qualities it borrows from them to the blood and juices of animals. Hence it becomes the vehicle of contagion, and the propagator of diseases, both epidemical and endemial, which admit of infinite variety, because the alterations of the air, with respect to its properties, and to the innumerable combinations of bodies contained in it, are infinite. However, we may venture to conclude, that the most healthful is that which is serene and dry, and consequently ponderous, and replete with the acid vital spirit.

6. It is the physical office and use of the air, to assist in raising the vapours and exhalations of the earth, and to serve as a general matrix for them; wherein they are all blended together, and fermented, or some way changed in their nature, so as to perform new offices, or recruit the vegetable, animal, and mineral kingdoms, when such enriched vapours fall back again in rain or dew to the earth. See VAPOUR, RAIN, and DEW.

7. Hence may be conceived in general

how all the changes, and phænomena, as meteors, explosions, thunder, lightening, the aurora borealis, &c. happen in this great chaos of the atmosphere, viz. according as floating particles of different kinds chance to meet, so as to form considerable aggregates or collections; and according as they are favoured by the requisite degrees of heat, cold, driness, or moisture. See the articles METEOR, EXPLOSION, THUNDER, &c.

As the various degrees of the heat and cold in the air is indicated by the thermometer, and its different weight, by the barometer, so its moisture and driness is shewn by the hygrometer. See the article HYGROMETER.

Having considered the properties of the air, it is necessary to consider also what corpuscles are blended and contained in this heterogeneous fluid. And these are in reality almost infinite, of various natures, and entirely different in different parts of the atmosphere. We may therefore consider it as an universal chaos, in which corpuscles of almost every kind, being confounded together, make up a composition consisting of the most different parts. For, 1. There is always, and every where, fire contained in the common air. See the article FIRE.

2. There is water contained always in the air, and in every part of it, and that in such a manner, that it does not appear possible, by any known methods, to separate the water entirely from it. Water is every moment perspiring from every person in health, in an invisible vapour. Sanctorius computes, that, in twenty-four hours time, there exhales from such a person nearly the weight of five pounds, much the greatest part of which is water. A vast quantity of aqueous steams must therefore be continually exhaling from animals of all kinds scattered all over the earth; and that all plants likewise send forth a dewy aqueous vapour, is a thing which has been long confirmed by observations; but the late learned and industrious Dr. Hales has, in his curious *Treatise of vegetable statics*, reduced the vast quantity of aqueous vapours exhaling from plants to calculation. Dr. Halley, from observations made with the greatest care and accuracy, has made it appear, that from the surface of the Mediterranean sea alone, in one summer's day, there exhales, by the heat of the season only, without any assistance from the

the wind, 52,800,000,000 tons of water. Hence the origin of springs and rivers. See the articles WATER, PERSPIRATION, SPRINGS, SEA, &c.

3. All the parts that we can observe in vegetables, are continually changing, and dispersed throughout the atmosphere. That the spirits of vegetables do always, and every where, exhale, and fill the air with a continual fragrance, no body can dispute. And it is very certain, that the odour of plants, dispersed through the vast tracks of air, often informs the mariners, before they discover land, of their approach to the shore. Hence then it follows, that whatever odoriferous spirits are at any time by nature produced in plants, all these are certainly, at length, contained in the air alone.

4. If we enquire whether the parts of animals are contained also in the air, we shall find there is a great quantity of exhaling spirits; and those wholly peculiar to every animal, that are continually diffused and carried into the air from living animals, and adhere to other bodies; and by means of these spirits it is, that dogs, which pursue by scent, distinguish so accurately the animals from which they exhale; and how full the air is frequently of effluvia, exhaling from animals, appears evident from the infection too often observable in contagious distempers.

5. Fossils are likewise discoverable in the air; for all fossile-salts, however fixed, at last fly off in the air, if they are dissolved in water, (especially in that which they attract from the air) and are afterwards digested for a long time in a putrifying heat, then distilled with a great degree of fire, their residuum calcined in a strong open fire, and then dissolved in the air again. Do not the chemists convert, by different methods, many thousand pounds weight of such salt into acid volatile fumes, which they call spirit? And does not every such chemical operation infect the very air? With regard to the principles, which are termed sulphurs, these, whenever the fossils are burnt, are entirely carried into the air, and, being intermixed with it, disappear; the saline acid part changing into a suffocating fume, and the oleaginous part being attenuated by the action of the flame, and flying off in an invisible or footy black vapour. It is very certain, that hardly any thing at all of these parts remains in the earth. Sulphur now itself, when alone, is car-

ried into the air in form of an impalpable powder, and is there dispersed about. 6. Metals themselves have been found to be so far changed, that even those, under a new form of a volatile fume, have been elevated and scattered in the air. This is universally known to be true of mercury, which, agitated only by a fire of 600 degrees, flies off, and becomes invisible. And if the air, impregnated with it, surrounds, and is applied to, a human body, how wonderfully does it penetrate it, and how quickly does it raise a salivation! But besides, while it thus flies off, it carries up and bears away with it some part of certain metals; as appears from the distillation of lead and tin with mercury. If we examine into the manner in which nature operates, according to the laws which the great Creator has ordained, we shall plainly discover that this air is the grand, efficacious, and necessary instrument which nature universally employs in almost all the operations she is perpetually engaged in. For in this, bodies of all kinds are placed; in this they move; and in this they perform all their actions, as well those which proceed from their particular and private natures, as those which depend upon their relation to other bodies. There is scarcely any liquid, as appears by experiment, which has not air intermixed with it; scarcely any solid out of which it may not be extracted by art. So that it is scarce possible to specify any operation of nature, which happens without the assistance of air, or utterly exclusive of it: the operations of the loadstone, gravity, and the particular attraction and repulsion of corpuscles, may perhaps be alone excepted, as capable of being performed without it; to all others it is absolutely necessary. All the operations of chemistry, without any exception, are performed in the air. In short, such is the generating and vivifying power of air, that some of the antient philosophers considered it as the first principle of all things. Air not only acts upon all bodies, by its common properties of weight and elasticity, but by the peculiar virtues of the ingredients whereof it is composed. By means of a corroding acid it dissolves iron and copper, unless well defended by oil. Even gold, in the chemists laboratory, when the air is impregnated with the effluvia of aqua regia, contracts a rust like other bodies. It fixes volatile bodies, and volatilizes

volatilizes those which are fixed. See the article ACID.

From the different effluvia, diffused thro' the air, proceed a variety of effects. Near mines of copper, it will discolour silver and brass; and in London, the air of which abounds with acid and corrosive particles, metalline utensils rust sooner than in the country. It is very difficult to obtain oil of sulphur in a clear dry air, as its parts are then more ready to evaporate; whereas, in a moist cloudy air, it may be obtained in abundance. All salts melt most readily in cloudy weather; and separations succeed best in the same state of the air. If pure wine be carried into a place where the air is full of the fumes of wine then fermenting, it will begin to ferment afresh.

AIR, in medicine, makes one of the six non-naturals, and that not the least powerful. The very life of animals depends on it, as is proved by experiments in the air-pump; most animals being unable to live in the exhausted receiver.

The wholesomeness or unwholesomeness of air, is certainly owing to the different effluvia with which it abounds. Lord Bacon thinks the best air is to be met with in open champaign countries; where the soil is dry, not parched or sandy, and spontaneously produces wild thyme, wild marjoram, and the like sweet-scented plants. That near rivers he thinks rather prejudicial, unless they are small, clear, and have a gravelly channel. The morning air is deemed more refreshing than that of the evening, and air agitated with breezes, than that which is serene and still.

As good air contributes greatly to health, so that which is bad is no less prejudicial to it. Stagnating air is productive of putrid and malignant disorders, as dysenteries, bilious fevers, &c; and that which is too moist, of inflammatory ones, as coughs, rheumatisms, &c. Moist and rainy seasons, however, differ widely in this respect; since in marshy countries, intense and continued heats occasion the greatest moisture in the air: whereas frequent showers, during the hot season, cool it, check the excess of vapour, dilute and refresh the corrupted stagnating water, and precipitate all noxious and putrid effluvia.

AIR, in mythology, was adored by the heathens under the names of Jupiter and Juno; the former representing the supe-

rior and finer part of the atmosphere, and the latter the inferior and grosser part. The augurs also drew presages from the clouds, thunder, lightning, &c.

AIR, in painting, &c. denotes the manner and very life of action; or it is that which expresses the disposition of the agent. See the article ACTION.

It is sometimes also used in a somewhat synonymous sense with gesture or attitude.

AIR, in music, denotes the melody proper for songs, odes, and the like; being usually quick and lively.

Sometimes it is used for the songs themselves, called by the Romans *era*, from which the modern term air is derived.

It is an observation of lord Bacon, that airs have some affinity with the affections of the mind: thus, there are merry airs, doleful airs, warlike airs, airs inclining to pity, &c. And hence we are to account for the great influence of music. But the same author remarks, that tho' this variety of airs disposes the mind to a variety of passions conformable to them; yet, generally speaking, music feeds that disposition of the spirits which it finds.

AIRS, in the manege, are the artificial motions of taught horses, as the demi-volt; curvet, capriole, &c. See the articles VOLT, &c.

An air is defined to be a cadence and liberty of motion, accommodated to the natural disposition of the horse; making him rise with obedience, measure, and justness of time.

Some even extend the meaning of the word to the natural paces of the horse, as walking, trotting, galloping; but the more exact writers restrain it to those motions already mentioned.

AIR-BLADDER, the same with what some call the *swim*, or *swimming-bladder*; being a vesicle found in the bodies of all fishes; the cartilaginous, cetaceous, and perhaps a few other kinds excepted.

By this bladder, which is always more or less replete with air, the fish is enabled to sustain its body at any depth. Near the bottom, the great weight of the incumbent water compresses the body of the fish, or rather the inclosed air-bladder, till it becomes equiponderant with an equal bulk of water. In the middle region, where the pressure is less, the air-bladder expands; and thereby increases the bulk of the fish, without adding any thing to its weight, till it becomes equi-

ponderant

ponderant with an equal bulk of water. As the fish continues to rise, the air-bladder still expands and sustains it.

It is highly probable, that fishes have a power of expanding or compressing the air-bladder, exclusive of the weight of the water, and by that means of rising, or sinking, according as they dilate or compress the bladder.

Some fishes have only a single air-bladder; others, a double one; and in others, it is triple, or divided into three cells. Fishes which lie grovelling at the bottom, have no air-bladders; and it is remarkable, that if the air-bladder be pricked or burst, in fishes naturally furnished with it, they immediately sink to the bottom, from whence they can never raise themselves.

AIR-GUN, a machine for exploding balls by means of condensed air.

Authors describe two kinds of this machine, *viz.* the common one, and what is called the magazine air-gun.

The common air gun is made of brass, and has two barrels; the innermost one *K A* (See plate IX. fig. 1.) being of a small bore; and the other *E C D R*, larger. In the stock of the gun there is a syringe *S M N P*; by which the air is injected into the cavity between the two barrels, through the valve *E P*. The ball *K* is put down into its place, in the smaller barrel, with a rammer, as in other guns. At *S L* is another valve, which being drawn open by the trigger *O*, makes way for the air to get behind the ball, so as to drive it out with great violence.

By opening and shutting this valve suddenly, one charge of condensed air will answer for several discharges, which are effected by means of a lock, represented in fig. 2.

Magazine AIR-GUN, that represented in fig. 3. where several balls are so lodged in the cavity or magazine *E D*, which is of a serpentine form, that they may be drawn into the shooting barrel by means of the hammer *H*, represented in fig. 5.

To make a discharge, pull the trigger *Z Z* (fig. 3.) which throws up the sear *y x*, and disengages it from the notch *x* upon which the strong spring *W W* moves the tumbler *T*, to which the cock is fixed. The end *u* of this tumbler bears down the end of the tumbling lever *R*, which by its other end *m*, raises the flat end of the horizontal lever *Q*; by which means the pin *P p* is pulled up, and opening the valve *V*, discharges the ball: all

which is evident from a bare view of the figure.

To bring another ball instantly to succeed, there is a part *H*, called the hammer, represented in fig. 4. 5. which turns the key of the cock, or circular part *a b c*, into any situation required. When a ball is in the gun the bore of this key coincides with that of the barrel *K K*, but when it is discharged, the hammer *H* is instantly brought down to shut the pan of the gun; by which motion, the bore of the key is turned into the situation *i k* (fig. 4.) so as to coincide with the orifice of the magazine; and upon lifting the gun upright, the ball next the key tumbles into its cavity, and falling behind two small spring *s s* (fig. 3.) is by them detained. Then opening the hammer again, the ball is brought into its proper place, near the discharging valve, and the bore of the key again coincides with that of the shooting barrel.

AIR-PUMP, a machine by which the air, contained in a proper vessel, may be exhausted, or drawn out.

Otto de Guericke, a burgo-master of Magdeburg, was the first inventor of this curious instrument: which was afterwards greatly improved by Mr. Boyle, Mr. Papin, and Mr. Hawksbee.

That commonly used at present is represented in plate X, where *A A* are the two brass barrels, in which the pistons *C C* move up and down. The brass tube or pipe, marked *H. H.* is called the swan's neck; thro' which the air passes from under the receiver *O O*, by a small hole *K*, in the middle of the brass plate *I I*, on the top of the pump, to a brass piece in the box *D D*; which being perforated lengthwise to the middle point under each barrel, transmits the air by a bladder-valve to be pumped out. The mercurial gauge, which communicates with the receiver, is marked *L L L*. The stop-cock *N*, serves to readmit the air, when there is occasion. *B* is the handle, or winch for working the pump. *G, G.* are two pillars supporting the frame of the pump-wheel, which is screwed upon them by the two nuts *E E*. As to the uses of the other parts, they will readily be comprehended by only inspecting the figure.

The operation of this machine depends on the elasticity of the air: for, by working the pump, the air in the receiver will expand itself: by which means part of it will be forced into the barrel of the pump,



107. 2.

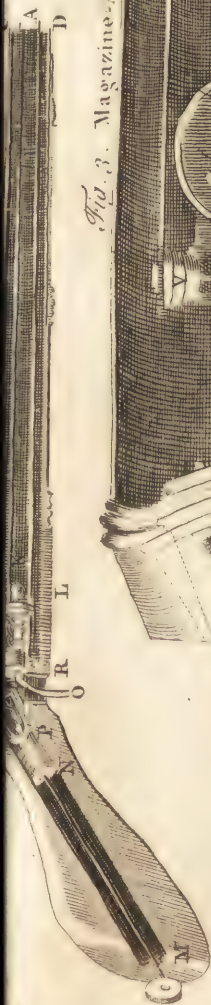


Fig. 3. Magazine-Attr. Gun.

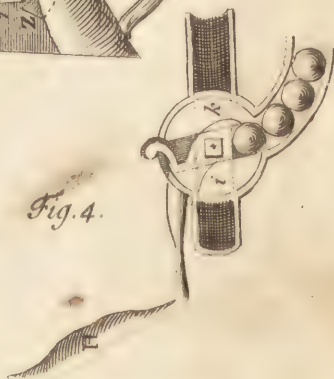
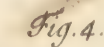
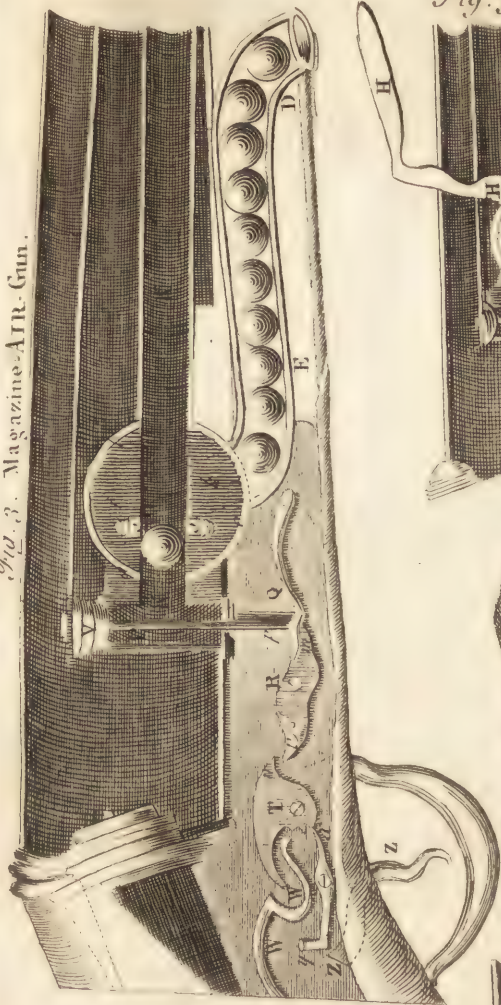


Fig. 5.

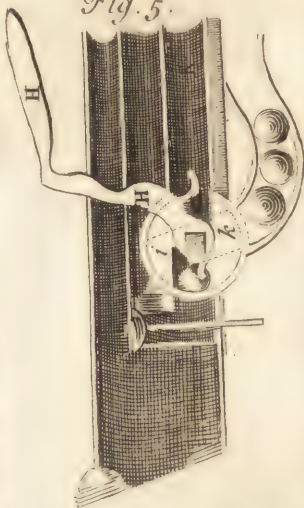
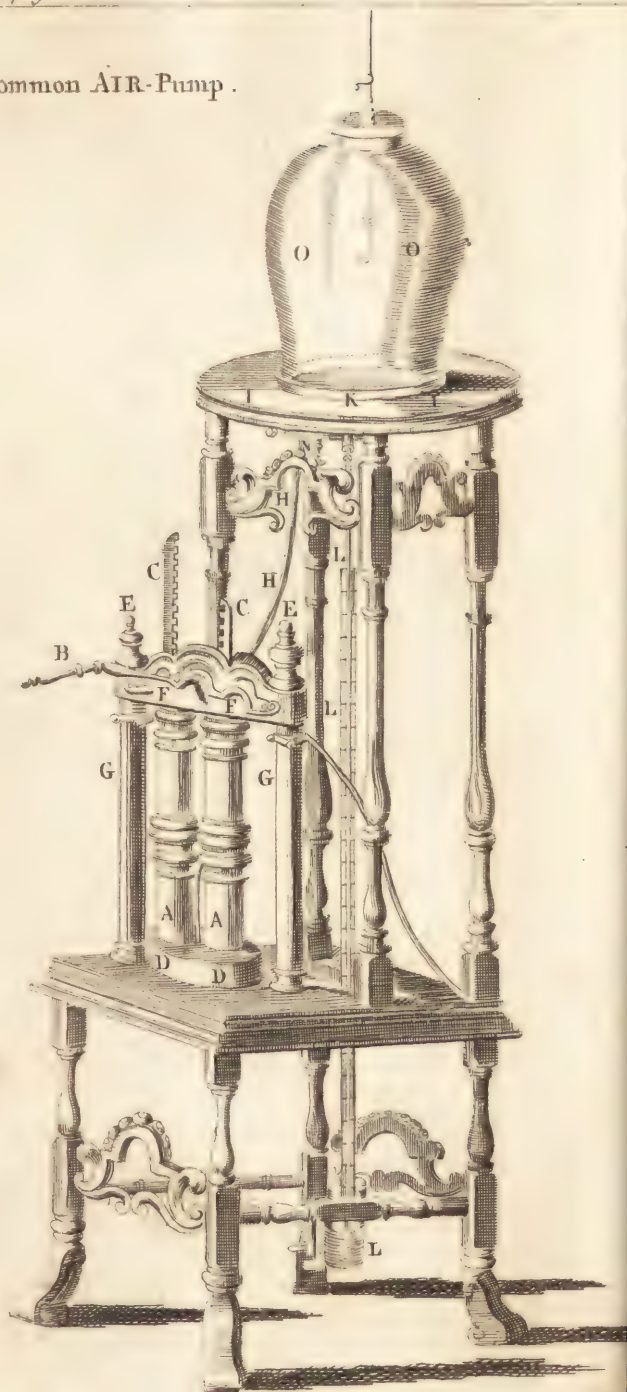


Fig. 1. AGUTI.





Common AIR-Pump.



to be carried off. By thus continuing to work the pump, the air in the receiver will be gradually exhausted; but can never be wholly drawn out, so as to leave a perfect vacuum within the vessel: for it must be considered, that the air which is exhausted, is only pushed out by the spring of that which remains behind: if therefore, every particle were supposed to be exhausted, the last would be expelled without an agent; or there would be an effect without a cause, which is absurd.

Portable AIR-PUMP, one so contrived as to be easily carried from one place to another. Its description may be seen in plate XI. fig. 1. where A B is the head, or part containing the wheel, which alternately raises and depresses the pistons C, D, in the barrels E, F. On the bottom, I K L stands the receiver M N. The piece for carrying off the air is marked O, and communicates with the perforated brass-piece on which the barrels stand, and from which they receive the air to be exhausted. P Q is a small receiver, under which is a basin of mercury R, with a tube hermetically sealed R S; the fall of the mercury in which tube, serves to indicate the degree of exhaustion. The stop-cock T is designed to let the air again into the receiver.

Smeaton's AIR-PUMP. See the article PUMP.

AIR-SHAFTS, among miners, are holes made from the open air to meet the adits, and supply them with fresh air.

These, when the adits are long, or exceeding thirty or forty fathom, become highly necessary, as well to give vent to the damps and noxious vapours, as to let in fresh air.

AIR-THREADS, in natural history, a name given to the long filaments so frequently seen in autumn floating about in the air. These threads are the work of spiders, especially the long-legged field-spider; which having mounted to the summit of a bush or tree, darts from its tail several of these threads, till at length it produces one capable of sustaining it in the air: on this it mounts in quest of prey, and frequently rises to considerable heights.

When a spider has thus raised itself, it does not descend always by the same thread; but winding that up, it darts out another, more or less long, as it is intended for a higher or lower flight.

AIR-VESSELS, in plants, certain vessels, or ducts, for imbibing and conveying air to the several parts of a plant.

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That all plants contain air is certain, but that they are furnished with distinct organs, answering to the tracheæ and lungs of animals, has not been sufficiently proved. Even the ingenious Dr. Hales speaks doubtfully on this head, proposing his sentiments by way of question, whether the use of those spiral wreaths, coiled round the insides of the vessels supposed to convey the air, and manifest in the leaves of the vine and scabious, may not be to promote the quicker ascent of air, by conforming in some degree to its elastic contortions.

AIRA, in botany, a genus of the *triandria digynia* class of plants, the corolla whereof is composed of two valves, extremely resembling those of the cup; one of these often produces an arista, near twice as long as the flower; the corolla serves the office of a pericarpium, and incloses the seed, which is single, and of an oval figure.

There are some species of this genus, in which male flowers are mixed with the hermaphrodite ones under the same common cup; in this case, the male flower produces an arista, whereas the female does not.

AIRE, in geography, the name of two towns of France, the one situated in the province of Gascony, about sixty-five miles south of Bourdeaux; and the other in Artois, about thirty miles S. E. of Calais.

AIRE is also a sea-port town in Scotland, situated in W. longitude 4° 40' and N. latitude 55° 30'. at the mouth of a river of the same name which discharges itself into the frith of Clyde.

AIRESHIRE, a county of Scotland, the capital of which is the town of Aire. It lies eastward of the mouth of the frith of Clyde.

AIRING, a term peculiarly used for the exercising horses in the open air; the advantage of which to these noble and useful animals, no body will dispute. Their masters in this, as well as in many other respects, are more mindful of the health of these valuable creatures than of their own. It were well, if this neglect could be called a sacrifice to public or private business; but when no such cause can be assigned, would it not be highly commendable, as well as salutary, for gentlemen to air themselves at the same time with their horses?

AIRY, or **AERY**, among sportsmen, a term

M

term

term expressing the nest of a hawk or eagle.

AIRY TRIPPLICITY, among astrologers, denotes the three signs Gemini, Libra, and Aquarius.

AISIAMENTA, in law, the same with easement. See the article **EASEMENT**.

AISNE, or **AISE**, a river of France, which rises on the frontiers of Lorraine, near Clermont, and falls into the Oyse, a little below Soissons.

AITOCZU, a considerable river of lesser Asia, which, arising in the mountain Taurus, falls into the south part of the Euxine sea.

AJUGA, **BUGLE**, in botany, a genus of the *didynamia-gymnospermia* class of plants: the flower is monopetalous and ringent; the upper lip being small, and bifid; the lower one, large and trifid: there is no pericarpium: the seeds are contained in the cup of the flower, and are four in number.

The flowers and leaves of bugle are said to be good in fluxes, in retention of urine, and in hernias.

AJUSTING, or **ADJUSTING**, among ecclesiastical writers, the same with accommodation. See **ACCOMMODATION**.

AJUTAGE, or **ADJUTAGE**, a kind of tube fitted to the mouth of the vessel, through which the water of a fountain is to be played.

To the different forms and structures of adjutages, is owing the great variety of fountains. See the article **FOUNTAIN**.

AIX, in geography, the name of several places, *viz.* of a large city of France, the capital of Provence; of a small town of Savoy, about eight miles north of Chambery; of an island on the coast of Gascony, between that of Oleron and the main land; and of a village of Champagne, situated in the generality of Chalons.

AIX-LA-CHAPELLE, otherwise called *Aach*, *Ach* and *Aken*, an imperial city of Germany, in the dutchy of Juliers. It is large and populous; being much resorted to by foreigners as well as by Germans, on account of its hot baths.

AIZOON, in botany, a genus of the *icosandra pentagynia* class of plants, the calyx of which is a permanent perianthium, formed of a single leaf, divided into five lanceolated segments: there is no corolla: the fruit is a ventricose capsule, of a pentagonal figure, and formed into five cells: the seeds are numerous and roundish.

AKOND, in the persian affairs, the chief

judge in all cases of contracts and other civil transactions. He is at the head of the lawyers, and has his deputies in all courts of the kingdom.

AL, an arabic particle prefixed to words, and signifying much the same with the english particle *the*: thus they say alkermes, alkoran, &c. *i. e.* the kermes, the koran, &c.

AL, or **ALD**, a saxon term frequently prefixed to the names of places, denoting their antiquity, as Aldborough, Aldgate, &c.

ALA, a latin term, properly signifying a wing; from a resemblance to which, several other things are called by the same name: thus,

ALÆ, in anatomy, is sometimes used for the lobes of the liver, the nymphæ of the female pudendum, the two cartilages which form the nostril, the arm-pits, young stems or branches, &c.

ALA, in botany, is used in different senses; sometimes it denotes the hollow between the stalk of a plant, and the leaves; sometimes it is applied to the two side petals of the papilionaceous flowers, the upper petal being called the *vexillum*, and the lower one the *carina*; others use it for the slender membranaceous parts of some seeds, thence said to be alated; and others, again, for the membranaceous expansions, found on the stems of plants, thence denominated, alated stalks.

ALABASTER, *alabastrites*, in natural history, the name of a genus of fossils, nearly allied to the marbles; being elegant stones of great brightness, but brittle, and not giving fire with steel: they ferment with acids, and readily calcine in the fire.

Naturalists enumerate three species of alabaster: 1. A white kind, called *lygdinum marmor*, by the antients. 2. A yellowish white kind, called by the antients *phenigites*. 3. A yellow and reddish kind, called simply *alabaster* by the antients.

The last kind, or alabaster of the antients, which is still found in Egypt, and even in Cornwall, is an extremely beautiful stone; being elegantly variegated with veins of a pale reddish, whitish, or brown colour, upon a clear, pale, yellow ground, from whence it was sometimes called *onyx*, and *onychites*.

The alabasters are much used by statuaries, for small statues, vases, and columns; as they cut smoothly, and take a beautiful polish. Sometimes they are employed like plaster of Paris, after being



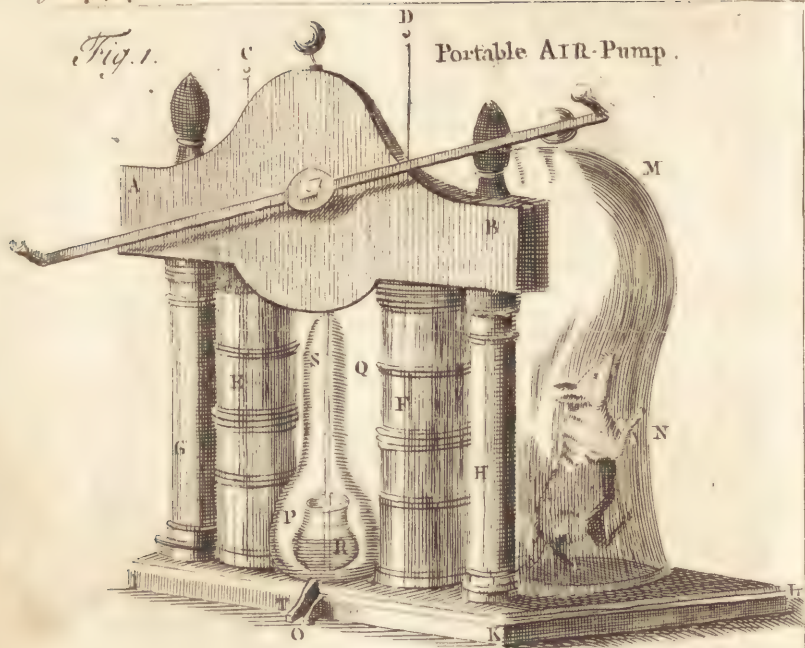


Fig. 2. ALATERNUS.



Fig. 3. ALAUDA.

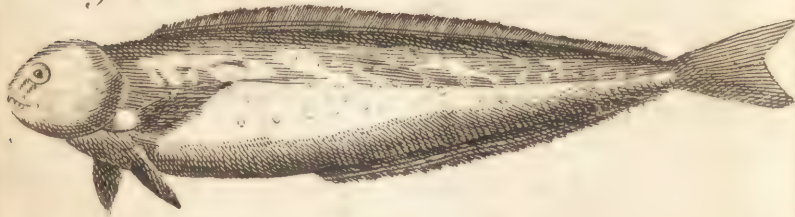


Fig. 4. ALBULA NOBILIS.



ing first calcined to a fine powder. This they mix up with water to a thin consistence, casting it in a mould, where it readily coagulates into a firm body.

ALABASTER, in antiquity, a term not only used for a box of precious ointment, but also for a liquid measure, containing ten ounces of wine, or nine of oil. Some will have the alabaster-box, mentioned in the gospels, to have been of glass, and to have been called alabaster from its holding the measure expressed by that name.

ALABASTRUM dendroide, the name of a species of laminated alabaster, beautifully variegated with the figures of trees, shrubs, &c.

ALADULIA, in geography, the most easterly division of Lesser Asia, comprehending the antient Cappadocia and Armenia Minor.

ALAIS, a considerable town of France, in the province of Languedoc, situated on the river Gardon, at the foot of the Cévennes.

ALALCOMENIUS, in grecian antiquity, the boeotian name of the month called by the Athenians *memacterion*. See the article *MÆACTERION*.

ALAMIRE, or *A-LA-MI-RE*, among musicians, a note of the modern scale of music. See the article *SCALE*.

ALAMODE, in commerce, a thin, glossy, black silk, chiefly used for women's hoods, and mens mourning scarfs.

ALAND, or **ALANDT**, an island of the Baltic sea, situated between 18 and 20° east longitude, and between 59 and 61° of north latitude.

ALANORARIUS, in our old customs, was a keeper of spaniels, setting-dogs, &c. for the use of sportsmen.

The word is derived from *alan*, a gothic term for a greyhound.

ALARAF, among mahometans, denotes the partition-wall which separates heaven from hell; though some use it in a larger sense for a limbus, or middle state, where in those whose good and evil actions exactly balance each other, enjoy neither happiness nor misery.

ALARBES, or **ALARABES**, a name given to those Arabians who live in tents, and distinguish themselves by their dress from the others who live in towns, than whom they pretend to be more considerable.

ALARES, in roman antiquity, an epithet given to the cavalry, on account of their being placed in the two wings, or *alæ*, of the army. Though some will have the

term to have denoted a kind of light-armed soldiers, so called from their agility and swiftness.

ALARES musculi, in anatomy, the latin name of the muscles more usually called *pterygoideæ*. See *PTERYGOIDÆUS*.

ALARM, in the military art, denotes either the apprehension of being suddenly attacked; or the notice thereof signified by firing a cannon, fire-lock, or the like.

False alarms are frequently made use of to harass the enemy, by keeping them constantly under arms. Sometimes also this method is taken to try the vigilance of the piquet-guard, and what might be expected from them in case of real danger.

ALARM-BELL, that rung upon any sudden emergency, as a fire, mutiny, or the like.

ALARM-POST, or **ALARM-PLACE**, the ground for drawing up each regiment, in case of an alarm. This is otherwise called the rendezvous.

ALARM is also the name of an instrument for wakening people, by making a noise, letting fall a weight upon them, or even pulling them. A simple one of this kind may be thus made: let a pack-thread, supporting a weight, be so placed against a candle, that it may be burnt at a certain hour; on which the weight will fall and waken the person.

ALATAMAHA, a large river of North America, which, rising in the apalachian mountains, runs south-east, thro' the province of Georgia, and falls into the Atlantic ocean below the town of Frederica.

ALATED leaves, among botanists, those made up of several pinnated ones, as in the *orobus*. See the article *PINNATED*.

ALATERNUS, in botany, a species of *rhamnus*. See the article *RHAMNUS*.

Its flower consists of one funnel-like leaf, divided into four deep segments; and the fruit is a berry, containing for the most part three seeds, globose on one side, and angular on the other. See plate XI. fig. 2.

ALAUDA, the **LARK**, in ornithology, a distinct genus of birds of the order of the *passeræ*, the characters of which are these: the tongue, which is membranaceous and pointed, has a rim or margin round it; the beak is straight, and pointed; the two chaps equal in size; and the claw of the hinder toe longer than any of the other toes. See the article *LARK*.

ALAUDA, in ichthyology, the name by which some writers call several species of

blennius, particularly the mulgranoc. See plate XI. fig. 3, and the article **BLENNIUS**.

ALAUTA, a considerable river of Turkey in Europe, which, after watering the north-east part of Transylvania and part of Wallachia, falls into the Danube almost opposite to Nicopolis.

ALB, or **ALBE**, *alba*, in the romish church, a vestment of white linen, hanging down to their feet, and answering to the surplice of our clergy. In the ancient church, it was usual with those newly baptised, to wear an alb, or white vestment; and hence the Sunday after easter was called *dominica in albis*, on account of the albs worn by those baptised on easter-day.

ALBA firma, or **ALBUM**, in our old customs, denoted rent paid in silver, and not in corn, which was called black-mail.

ALBA terra, one of the many names by which alchemists call the philosopher's stone, said to be compounded of mercury and sulphur.

ALBANI, in roman antiquity, a college of the *salii*, or priests of Mars, so called from mount Albanus, the place of their residence. See the article **SALII**.

ALBANIA, a province of Turkey in Europe, situated on the east side of the gulph of Venice.

ALBANO, a town of Italy, in the Campagna di Roma, about twelve miles south-east of Rome. E. lon. 13°, N. lat. 41° 45'.

ALBANS, or **ST. ALBANS**, a town of Hertfordshire, situated about twenty miles north-west of London. It returns two members to parliament, and gives the title of duke to the noble family of Beauchamp: north lat. 51° 40'.

ALBANY, a town of North America, in the province of New York, situated on Hudson's river, in 74° of west longitude, and 43° north latitude.

ALBARA, or **ALBORA**, among ancient physicians, a malignant kind of itch, approaching to the leprosy. See the articles **ITCH**, and **LEPROSY**.

ALBARAZIN, a town of Spain, in the kingdom of Aragon, situated upon the river Guadalquivir, about one hundred and ten miles east of Madrid.

ALBEMARLE, a town of France, in the province of Normandy, from whence the noble family of Keppel takes the title of earl. E. long. 2°, N. lat. 49° 45'.

ALBEMARLE is also the name of the most northerly district of North Carolina. See the article **CAROLINA**.

ALBENGA, a sea-port town of Italy, situated on the Mediterranean sea, about fifteen miles north-east of Oneglia.

ALBIGENSES, in church history, a sect of christians, which appeared in the XIIth and XIIIth centuries. They are ranked among the grossest of heretics, the manicheans, by roman catholics; from which charge protestants generally acquit them, though with some limitation. See the article **MANICHEES**.

At the time of the reformation, those of the albigenses who remained, embraced calvinism. See the article **CALVINISTS**.

ALBION, the ancient name of Britain. See the article **BRITAIN**.

ALBORAK, among the mahometan writers, the beast on which Mahomet rode, in his journeys to heaven.

The Arab commentators give many fables concerning this extraordinary vehicle. It is represented as of an intermediate shape and size, between an ass and a mule. A place, it seems, was secured for it in paradise, at the intercession of Mahomet; which, however, was, in some measure, extorted from the prophet, by Alborak's refusing to let him mount him, when the angel Gabriel came to conduct him to heaven.

ALBOURG, or **ALBURG**, a sea-port town of north Jutland, in the kingdom of Denmark.

ALBRET, or **ALBRIT**, a small town of France, in the province of Gascony, about thirty-five miles south of Bourdeaux.

ALBUGINEA tunica, in anatomy, the third or innermost coat of the testicles, so called from its white colour.

It is a strong thick membrane, very smooth on the outer surface; the inner, which adheres to the substance of the testicle, being rough and uneven. Into its upper part are inserted blood vessels, nerves, and lymphatics, which from thence send divers branches into the substance of the testicles.

Albuginea is also a name sometimes given to one of the coats of the eye, otherwise called *adnata*. See the article **ADNATA**.

ALBUGINEUS, an appellation given by some to the aqueous humour of the eye. See the article **EYE**.

ALBUGO, among physicians, denotes a distemper of the eye, caused by a white, dense, and opaque spot growing upon the *tunica cornea*, and obstructing the sight. It is otherwise called *leucoma*. See the article **LEUCOMA**.

ALBULA, in ichthyology, a name given by

by different authors to very different fishes; particularly to the *cyprinus* with twenty bones in the belly-fin, and to several species of *coregonus*. See the articles *CYPRINUS* and *COREGONUS*.

The *albula nobilis*, or *coregonus* with fourteen rays in the back-fin, is represented in plate XI. fig. 4.

ALBUM, in antiquity, a kind of table, or register, wherein the names of certain magistrates, public transactions, &c. were entered. Of these there were various sorts, as the *album senatorum*, *album iudicum*, *album pratoris*, &c.

ALBUM græcum, among physicians, denotes the white dung of dogs, said to be good for inflammations of the throat; but little regarded at present.

ALBUM oculi, the white of the eye; otherwise called *albuginea* and *adnata*.

ALBUMEN, the term used by medical writers for the white of an egg. See the article *EGG*.

The *albumina*, or whites of eggs, are, on account of their agglutinating and cooling quality, used in collyriums for the eyes; also for burns, and in some mixtures with bole armoniac for fresh wounds. Boiled with any liquor, they serve to clarify it; for being thereby hardened, they carry off with them the gross and feculent parts.

Distilling the albumen by a retort in a sand heat, till it be brought to a dryness, it yields an incredible quantity of water, which has most of the properties of the whole mass.

The white of an egg makes an extraordinary menstruum. Being boiled hard in the shell, and afterwards suspended in the air by a thread, it resolves and drops down into an insipid scentless liquor, which appears to be that anomalous unaccountable menstruum, so much used by Paracelsus; and will, though it contain nothing sharp, oleaginous, or saponaceous, make a thorough solution of myrrh; which is more than either water, oil, spirits, or even fire itself, can effect.

ALBUQUERQUE, a city of Spain, in the kingdom of Leon and province of Estremadura, situated on the frontiers of Portugal. W. long. 7°, N. lat. 39°.

ALBURN, the english name of a compound colour, being a mixture of white and red, or reddish brown.

ALBUS piscis, a name sometimes used for a species of *cyprinus*, with large eyes and an acute rostrum. See *CYPRINUS*.

ALBY, or **ALBI**, a city of France, in the

province of Languedoc, situated in 40° east longit. and 43° 50' north lat.

ALCA, in ornithology, a genus of birds of the order of the anseres: the beak is of a convex and compressed figure; and is incurved and furrowed in a transverse direction; the feet stand very backward, and have each three toes.

ALCACER de Sal, or **ALCAREZ**, a town of Portugal, in the province of Estremadura, about forty-five miles south-east of Lisbon. W. long. 9°, N. lat. 38° 30'.

ALCAICS, in antient poetry, a denomination given to several kinds of verse, from their inventor Alcæus.

The first kind consists of five feet, *viz.*

1. a spondee or iambic: 2. an iambic: 3. a long syllable: 4. a dactyl: 5. a dactyl: such is the following verse of Horace,

*Omnes | eo|dem| cogimur, | omnium
Versatur urna, &c.*

The second kind consists of two dactyls, and two trochees: such is

Exilium | imposi|tura | cymbæ.

Besides these two, which are called dactylic alcaics, there is another termed simply alcaic, and consisting of, 1. an epitrite; 2. a coriambus; 3. a coriambus; 4. a bacchius: thus,

*Cur | timet | fla|vum|Tiberim| tangere, cur|
olivum ?*

ALCAIC ode, a kind of manly ode, composed of several strophes, each consisting of four verses, the two first of which are always alcaics of the first kind; the third verse is an iambic dimeter hypercatalectic, that is, it consists of four feet and a long syllable: and the fourth verse is an alcaic of the second kind: such is the following strophe of Horace, who calls this kind of poetry *minaces Alcæi camenæ*.

Non possidentem multa vocaveris

Resse beatum: rectius occupat

Nomen beati, qui deorum

Muneribus sapienter uti, &c.

Lib. IV. Od. ix. ver. 45.

ALCAID, **ALCAYDE**, or **ALCALDE**, in the polity of the Moors, Spaniards, and Portuguese, a magistrate, or officer of justice, answering nearly to the French prevoist, and the british justice of peace.

The alcaid, among the Moors, is vested with supreme jurisdiction, both in civil and criminal cases.

ALCALA de Guadiara, a town of Spain, in the province of Andalusia, about six miles south of Seville.

ALCALA de Henares, a town of Spain, in the province of New Castile, about sixteen miles east of Madrid,

ALCALA

ALCALA de Real, a city of Spain, in the province of Andalusia, about fifteen miles north-west of the city of Granada.

ALCALY, or **ALKALY**, in chemistry, &c. See the article **ALKALY**.

ALCANNA, in commerce, a powder prepared from the leaves of the egyptian privet, in which the people of Cairo drive a considerable trade. It is much used by the turkish women, to give a golden colour to their nails and hair. In dying, it gives a yellow colour, when steeped with common water, and a red one, when infused in vinegar. There is also an oil extracted from the berries of alcanna, and used in medicine as a calmer.

ALCANTARA, a city of Spain, in the province of Estremadura, on the frontiers of Portugal. W. lon. 7°, N. lat. 39° 10'.

Knights of ALCANTARA, a military order of Spain, which took its name from the abovementioned city.

The Spanish antiquaries vary much in their accounts of this order. The Jesuit Mendo fixes its origin in 1156, Barbosa in 1176. The chronicles of the order relate, that Ferdinand king of Leon took it under his protection in 1176; that pope Alexander III. confirmed it the year following; that Lucius III, in 1184, gave it the order of St. Benedict; and that Nugnez Ferdinand, in 1218, gave it the city Alcantara, from whence it took the name. Carro de Forres, and Franc. de Bades affirm, that it was at first called the order of St. Julian del Pereyro, from the name of the city where it was founded; but that the precise year of its institution is not known.

The knights of Alcantara make the same vows as those of Calatrava, and are only distinguished from them by this, that the cross fleurdelisee which they bear over a large white cloak, is of a green colour: they possess thirty-seven commendaries. By the terms of the surrender of Alcantara to this order, it was stipulated, that there should be a confraternity between the two orders, with the same practices and observances in both; and that the order of Alcantara, should be subject to be visited by the grand master of Calatrava. But the former soon got free from this engagement, on pretence that their grand master had not been called to the election of that of Calatrava, as had been likewise stipulated in the articles.

The knights of Alcantara make a very considerable figure in the history of the

expeditions against the Moors.

ALCARAZ, a town of Spain, in the province of New Castile, situated on the river Guadarema, W. lon. 3°, N. lat. 38° 3'.

ALCAZAR de Sal, a small town of Portugal, in the province of Estremadura, near the confines of that of Alentejo.

ALCE, the elk, in zoology. See **ELK**.

ALCEA, **VERVAIN-MALLOW**, in botany, a genus of the monadelphia polyandria class of plants, the calyx of which is a double perianthium; the exterior one, which is permanent, consists of a single patent leaf, divided into six segments; the interior is also permanent, and consists of a single leaf divided into five segments: the corolla consists of five very large patent and emarginated petals, growing together at the base: the fruit is composed of numerous capsules, each containing a single compressed kidney-shaped seed. See plate XII. fig. 1.

ALCHEMIST and **ALCHEMY**. See the articles **ALCHYMIST** and **ALCHYMY**.

ALCHIMILLA, or **ALCHEMILLA**, **LADIES-MANTLE**, in botany, a genus of the tetrandria monogynia class of plants, the calyx of which is a single-leaved perianthium: there is no corolla, nor any pericarpium; the cup finally becomes a capsule, containing a single elliptical and compressed seed. See plate XII. fig. 2.

The alchimillas are esteemed powerful vulneraries and incassants: they are likewise said to have considerable efficacy in stopping the floodings of the menses and fluor albus; and some apply them externally in a *vomica pulmonum*.

ALCHYMIST, or **ALCHEMIST**, a person who professes or practises alchymy. See the next article.

The office of alchymists, as assigned by some authors, is of great extent: to them it belongs to explain the principles, the properties, and qualities of all metals, and the several alterations these are capable of; to teach the manner of converting impure and gross metals into gold and silver; to give even to precious stones the degree of perfection they want; to preserve the human body in perfect vigour, and cure the most dangerous and desperate diseases incident thereto.

ALCHYMY, or **ALCHEMY**, denotes the higher or more secret parts of chemistry. See the article **CHEMISTRY**.

The principal objects of alchymy are these, 1. The making of gold. 2. An universal medicine, or panacea. 3. An universal

versal dissolvent, or alkahest. And, 4. An universal ferment. See the articles *PANACEA*, *ELIXIR*, and *ALKAHEST*. As to the making of gold, it has been attempted three different ways, by separation, by maturation, and by transmutation; which last they pretend to effect by means of the philosopher's stone. See the article *PHILOSOPHER'S stone*.

Kircher tells us, that the antient Egyptians were great adepts in alchymy; but that they had no need to transmute the baser metals into gold, as having ways to separate it from all kinds of bodies, even the mud of the Nile.

Be this as it will, modern alchymists, who pretend to transmute metals into gold, are a set of arrant cheats: they put into a crucible the metal to be changed into gold; then set it on the fire, blow, and stir it with rods; and, after a great deal of farce, gold is at length found in the bottom of the crucible, instead of the matter put in. But this there are several ways of effecting without a transmutation of one metal into another: sometimes it is done by secretly dropping in a piece of gold; sometimes by casting in some gold dust under the appearance of some elixir, or the like; sometimes a crucible is used with a double bottom, and gold concealed between them; sometimes the rod, employed to stir the metal, is hollow, and filled with gold-dust; and at other times some gold-dust is mixed with the charcoal, the ashes of the furnace, and the like. By so many ways do these charlatons impose upon mankind, who are nevertheless so excessively credulous as to believe them.

ALCHYMY is also sometimes, though in a less proper sense, used for common chemistry. See the article *CHEMISTRY*.

ALCMAER, a town of north Holland, remarkable for the fine pastures in its neighbourhood, and the great quantities of butter and cheese made there.

ALCMANIAN, in antient lyric poetry, a kind of verse, consisting of two dactyls and two trochees, as

Virginibus puerisque canto.

ALCOBACA, a small town of Portugal, in the province of Estremadura: it is defended by a pretty strong castle; but what makes it most remarkable is the abbey of St Bennet, which is the burying-place of most of the kings of Portugal.

ALCOHOL, or **ALKOOL**, in chemistry, denotes spirit of wine rectified by repeated distillations, till it has acquired the

utmost subtilty and perfection of which it is capable. See the article *SPIRIT*.

Pure alcohol is the lightest of all fluids next to air; it is extremely thin, pellucid, and simple; it is wholly inflammable, leaving no phlegm or fæces behind. It is a great resister of putrefaction, and therefore used to preserve various animals, which being suspended in it, will continue entire for many ages.

ALCOHOL also denotes a very fine impalpable powder.

ALCOHOL martis, filings of steel reduced to an impalpable powder, by turning it into rust with urine, then levigating it, and mixing it with a large quantity of water, that is, about a gallon, to two pounds and a half of filings. After it has stood a quarter of an hour, the upper part to the water is to be poured off, and evaporated to a dryness. The powder at the bottom is to be put into a paper, in the form of a sugar-loaf, and washed, by gradually pouring in hot water, till it is freed from the urinous salts: with regard to the remaining gross powder, the same process is to be repeated over again.

To bring the gout back from the noble parts of the joints, Musgrave has a great opinion to this remedy: he prescribes it thus: take of alcohol martis from five to ten grains, theriaca andromachi from half a scruple to one dram, mix these with as much syrup of clove july-flower as is sufficient to make a bolus. See *GOVT*. **ALCOHOLIZATION**, among chemists, the process of rectifying any spirit, or reducing it to a perfect alcohol.

Alcoholization is sometimes used in a synonymous sense with pulverization. See the article *PULVERIZATION*.

ALCORAN, or **ALKORAN**, the name of a book held equally sacred among the mahometans as the bible is among christians.

The word *alkoran* properly signifies reading; a title given it by way of eminence, just as we call the old and new testament *scriptures*.

That Mahomet was the author of the alcoran is allowed both by christians and the mahometans themselves; only the latter are fully persuaded that it was revealed to him by the ministry of the angel Gabriel; whereas the former, with more reason, think it all his own invention, assisted by one Sergius a christian monk. The Alcoran is held not only of divine original, but eternal and uncreated, remaining, as some express it, in the very essence of God. The first transcript has been

from

from everlasting by God's throne, written on a table of vast bigness, in which are also recorded the divine decrees, past and future. A copy from this table, in one volume, on paper, was sent down to the lowest heaven, in the month of Ramadan, on the night of power. From whence it was delivered out to Mahomet by parcels, some at Mecca, and some at Medina. Though he had the consolation of seeing the whole once a year, and in the last part of his life twice. Ten new chapters were delivered entire, the greater part only in separate periods, which were written down from time to time by the the prophet's amanuensis, in this or that part, of this or the other chapter, as he directed. The first parcel that was revealed, was the five first verses of the ninety-sixth chapter, which the prophet received in a cave of Mount Harah, near Mecca.

The general aim of the Alcoran was, to unite the professors of the three different religions, then followed in Arabia, Idolaters, Jews, and Christians, in the knowledge and worship of one God, under the sanction of certain laws, and the outward signs of ceremonies, partly of antient, and partly of novel institution, enforced by the consideration of rewards and punishments, both temporal and eternal, and to bring all to the obedience of Mahomet, as the prophet and ambassador of God, who was to establish the true religion on earth, and be acknowledged chief pontiff in spiritual matters. The chief point therefore inculcated in the Alcoran, is the unity of God, to restore which, the prophet confessed was the chief end of his mission. The rest is taken up in prescribing necessary laws and directions, frequent admonitions to moral and divine virtues, the worship and reverence of the supreme being, and resignation to his will. One of their most learned commentators distinguishes the contents of the Alcoran, into allegorical and literal; under the former are comprehended all the obscure, parabolical, and ænigmatical passages, with such as are repealed, or abrogated; the latter, such as are clear, and in full force.

As to the book itself, as it now stands, it is divided into an hundred and fourteen *suras* or chapters, which are again divided into smaller portions or verses. But besides these divisions, mahometan writers farther divide it into sixty equal portions, called *bizb* or *bazab*, each of which they subdivide into four parts.

After the title at the head of each chapter, except the ninth, is prefixed the formula, "In the name of the most merciful God," called by the Mahometans *Bismallah*, wherewith they constantly begin all their books and writings, as the distinguishing mark of their religion.

Twenty-nine of the chapters of the Alcoran have this further peculiarity, that there are certain letters of the alphabet prefixed to them. In some a single letter; in others, two or more. These letters are supposed, by the true believers, to conceal divers profound mysteries, the understanding whereof has been communicated to no man, their prophet excepted. Yet some have pretended to find their meaning, by supposing the letters to stand for so many words, expressing the names, attributes, and works of God. Others explain these letters from the organ made use of in their pronunciation; others from their value in numbers. Thus there are five chapters, whereof one is the second, which begins with these letters, *A, L, M.* which some imagine to stand for *Allah, Latif, Magid*; God is gracious, and to be glorified. Others for *Ana, Li, Minni*; To me, and from me, *viz.* belongs all perfection, and proceeds all. Others for *Ana, Allah, Alam*; I am the most wise God. Taking the first letter to denote the beginning of the first word, the second the middle of the second, and the third the last of the third word. Others for *Allah, Gabriel, Mahomet*: the first, the author; the second, the revealer; the third, the preacher of the Alcoran. Others pretend, that as the letter *A* belongs to the lower part of the throat, the first of the organs of speech; *L* to the palate, the middle organ, and *M* to the lips, the last organ; so these letters denote, that God is the beginning, middle, and end. Others, that as the numerical value of these three letters is seventy-one, they denote, that in the space of so many years, the religion preached in the Koran shall be fully established. Golius conjectures, that these letters were put there by the copyist; for *Amar li Mahomede*, i. e. at the command of Mahomet.

The Alcoran is allowed to be written with the utmost elegance and purity of language, in the dialect of the Koreishites, the most noble and polite of all the Arabians, but with some mixture of other dialects. It is the standard of the Arabic tongue, and as the orthodox believe, and are taught by the book itself, inimitable
by

by any human pen ; and therefore insisted on a as permanent miracle, greater than that of raising the dead, and alone sufficient to convince the world of its divine original ; and to this miracle did Mahomet himself chiefly appeal, for the confirmation of his mission, publicly challenging the most eloquent schoolmen in Arabia, to produce a single chapter comparable to it. A late ingenious and candid writer, who is a very good judge, allows the style of the alcoran, to be generally beautiful and fluent, especially where it imitates the prophetic manner, and scripture phrase ; concise, and often obscure ; adorned with bold figures, after the eastern taste ; enlivened with florid and sententious expressions ; and, in many places, especially where the majesty and attributes of God are described, sublime and magnificent.

To the pomp and harmony of expression some ascribe all the force and effect of the alcoran ; which they consider as a sort of music, equally fitted to ravish and amaze, with other species of that art. In this Mahomet succeeded so well, and so strangely captivated the minds of his audience, that several of his opponents thought it the effect of witchcraft and enchantment, as he himself complains.

So numerous are the commentaries on the alcoran, that a catalogue of their bare titles would make a volume, we have a very elegant translation of it into english by Mr. Sale ; who has added a preliminary discourse, with other occasional notes, which the curious may consult on this head.

Alcoran is also used, in a more limited sense, for a part or chapter of the alcoran.

ALCORAN, in a figurative sense, is an appellation given to any books full of impostures, or impiety.

ALCORAN, among the Persians, is also used for a narrow kind of steeple, with two or three galleries, where the priests, called moravites, say prayers with a loud voice.

ALCORANISTS, among the mahometans, an appellation given to those who adhere closely to the alcoran, as the ultimate rule of faith : such are the Persians, in contradistinction from the Turks, Arabs, &c. who admit a multitude of traditions besides the alcoran.

ALCOVE, among builders, a recess or part of a chamber, separated by an estrade or partition of columns and other corresponding ornaments ; in which is placed a

bed of state, and sometimes seats to entertain company.

These alcoves are frequent in Spain, and the bed raised two or three ascents, with a rail at the feet.

ALCYONIUM, in botany, a genus of submarine plants, consisting of a rigid fibrose substance, disposed in various forms, and sometimes coated over with a crust of a simular but more compact matter than the rest.

The *alcyonia*, of which authors enumerate a great many species, have no visible flowers nor seeds.

ALCYONIUM is also used for various other substances, particularly a kind of white coral, or astroites, frequently found fossil in England.

ALDBOROUGH, a sea-port town of Suffolk, which sends two members to parliament. E. lon. $1^{\circ} 40'$, N. lat. $52^{\circ} 20'$.

ALDBOROUGH is also a market-town of Yorkshire, about fifteen miles north-west of the city of York.

ALDEA, a town of Portugal, in the province of Estremadura, about ten miles south of Lisbon.

ALDEBARAN, in astronomy, a star of the first magnitude, called in english the bull's eye, as making the eye of the constellation taurus.

ALDER-tree, the english name of a genus of trees, called by botanists *alnus*. See the article **ALNUS**.

Alder-wood is much used by turners, for making household furniture, ladders, &c. It will keep long in water, and therefore makes good pipes for conveying water.

Berry-bearing-ALDER, the english name of the *frangula* of botanical writers. See the article **FRANGULA**.

ALDERAIMIN, in astronomy, a star of the third magnitude, on the right shoulder of cepheus. See the article **CEPHEUS**.

ALDERMAN, in the british policy, a magistrate subordinate to the mayor of a city, or town-corporate.

The number of these magistrates is not limited, but is more or less according to the magnitude of the place. In London they are twenty-six ; each having one of the wards of the city committed to his care. Their office is for life ; so that when one of them dies, or resigns, a ward-mote is called, who return two persons, one of whom the lord mayor and aldermen choose to supply the vacancy.

By the charter of the city of London, all the aldermen who have been lord mayors,

together with the three eldest ones not arrived at that dignity, are justices of the peace.

ALDERMAN, among our saxon ancestors, was a degree of nobility, answering to earl or count at present.

Alderman was also used, in the time of king Edgar, for a judge or justice; in which sense Alwin is called *aldermannus rotius Angliae*.

ALDERNEY, or **AURIGNI**, an island on the coast of Normandy, subject to the crown of Great Britain.

ALE, a fermented liquor, obtained from an infusion of malt, and differing only from beer by having a less proportion of hops. See the articles **BEER** and **BREWING**. Ale is thought to be the same kind of liquor with the *cerevisia*, *zythum*, and *curmi* of the antients.

There are several sorts of ale, some prepared one way, some another. Pale ale is brewed of malt slightly dried, and is esteemed more viscid than brown ale, which is made of malt more highly dried or roasted.

The annual consumption of ale, or malt-liquors in the british dominions, is very great; some making it amount to the value of four millions sterling.

Medicated ALES, those wherein medicinal herbs have been infused, or put to ferment: such are the *cerevisia cephalica*, *cerevisia epileptica*, &c.

Gill-ale, or that prepared by infusing the dried leaves of ground-ivy, is esteemed absterfive and vulnerary; and therefore good in disorders of the breast and obstructions of the viscera.

ALE-BERRY, the popular name for ale that is boiled with bread and mace, sweetened, strained, and drank hot.

ALE-CONNOR, an officer in London, who inspects the measures of public houses. They are four in number, and chosen by the common-hall of the city.

ALE-SILVER, a tax paid yearly to the lord mayor of London, by all who sell ale within the city.

ALE-MEASURE. See **MEASURE**.

ALEA, in roman antiquity, denotes in general all manner of games of chance; but in a more restricted sense, was used for a particular game played with dice and tables, not unlike our back-gammon. See the article **BACK-GAMMON**.

ALECTORIA, in natural history, a stone said to be formed in the stomach, liver, or rather gall-bladder of old cocks; to

which old medical authors attribute a great many fabulous virtues.

ALECTOROMANTIA, in grecian antiquity, a species of divination performed by means of a cock, in the following manner: A circle being described on the ground, and divided into twenty-four equal portions, in each of these spaces was written one of the letters of the alphabet, and on each of the letters was laid a grain of wheat; after which a cock being turned loose in the circle, particular notice was taken of the grains picked up by the cock, because the letters under them being formed into a word, made the answer desired.

ALEGRETTE, a town of Portugal in the province of Alentejo, situated on the river Caya. W. lon. 7°. 50'. N. lat. 39°.

ALEMBIC, or **LEMBIC**, a chemical vessel, usually made of copper, being an oblong roundish body, terminating in a sloping tube, or rostrum, through which the condensed vapours pass in distillation. The alembic, properly speaking, is only the upper part of an apparatus used for distilling, but some less accurate writers often use it to denote the whole.

Alembics are either open, that is, where the head and cucurbit make two separate parts; or blind, where the capital is sealed hermetically upon the cucurbit.

ALEMBROTH, among alchymists, denotes a kind of fixed alkaline salt, nearly allied to halonitrum and alum, and partaking of the nature of alkahest. See the article **ALKAHEST**.

Some use the term alembroth *dæficcatum*, for salt of tartar. See the article **TARTAR**.

ALENGNER, a town of Portugal, in the province of Estremadura, about twenty-seven miles N. E. of Lisbon.

ALENTEJO, a province of Portugal, lying southward of the Tagus.

ALENZON, a large city of Normandy, situated under the same meridian with London, in 48° 32' N. latitude.

It is the capital of a dutchy of the same name.

ALEPPO, a large city of Asiatic Turkey, situated in E. longitude 37° 4'. and N. latitude 36° 30'.

It is an inland town, lying almost in the middle between the river Euphrates and the Levant-sea. The christians who are allowed the free exercise of their religion, have their houses and churches in the suburbs.

The beglerbeg of Aleppo commands the whole



Fig. 1. ALCEA.



Fig. 2. ALCHIMILLA.



Fig. 3. ALGA.

whole extent of country between the Levant-sea and the Euphrates.

ALET, or **ALETH**, a city of France, situated in the upper Languedoc at the foot of the Pyrenees, about thirty-two miles S. W. of Norbonne, E. long. 2° . N. lat. $43^{\circ} 10'$.

ALEXANDRIA, a port town of Egypt, situated in E. longitude $31^{\circ} 15'$ and N. latitude $30^{\circ} 40'$. about fourteen miles westward of the most westerly branch of the river Nile.

ALEXANDRIA is also the name of a city of Italy, situated on the river Tanaro, about forty miles N. W. of Genoa. E. longitude $8^{\circ} 52'$. N. latitude $44^{\circ} 45'$.

ALEXANDRIAN, or **ALEXANDRIN**, in poetry, a kind of verse, consisting of twelve, or of twelve and thirteen syllables alternately; so called from a poem on the life of Alexander, written in this kind of verse, by some french poet.

Alexandrins are peculiar to modern poetry, and seem well adapted to epic poems. They are sometimes used by most nations of Europe, but chiefly by the French; whose tragedies are generally composed in Alexandrins.

ALEXIPHARMIC, among physicians, an appellation given to such medicines as resist poison, and correct or expel the causes of malignant disorders.

Alexipharmics produce their effect chiefly by promoting perspiration, whereby the putrid particles are carried off: they are therefore nearly allied to the diaphoretics. See the article **DIAPHORETICS**.

Alexipharmics agitate and attenuate the humours, on which account they are improper in all cases where these are acrid or too thin; also in all inflammatory disorders, unless administered with great caution. On the contrary, they are very serviceable in those diseases, which proceed from external cold and obstructed perspiration, as catarrhs, rheumatisms, fluxes, coughs, and glandular tumours. Alexipharmics make a large class of medicines, but the principal ones are these: 1. Of the animal kingdom, hartshorn, bezoars, and the bones and teeth of different animals. 2. Of the vegetable kingdom, the leaves and flowers of all the aromatic plants, especially such as are umbelliferous. 3. Of the mineral kingdom, the different preparations of antimony, the dulcified spirit of vitriol with alcohol.

ALEXITERIAL, among physicians, a term of much the same import with a-

lexipharmic; though sometimes used in a synonymous sense with amulet. See the articles **ALEXIPHARMIC** and **AMULET**.

ALFAQUES, among the Moors, the name generally used for their clergy, or those who teach the mahometan religion, in opposition to the morabites, who answer to monks among christians.

ALFELD, a town of Germany in the bishopric of Hildesheim, and circle of lower Saxony, situated about ten miles S. of Hildesheim, in E. longitude $9^{\circ} 50'$, and N. latitude 52° .

ALFET, in our old customs, denotes a cauldron full of boiling water, wherein an accused person, by way of trial or purgation, plunged his arm up to the elbow.

ALGA, in botany, a genus of submarine plants, called in english, grafs-wreck, and composed of long slender leaves of a dusky-green colour, very much resembling some kinds of grafs. See plate XII. fig. 3.

Authors enumerate several species of alga, the most considerable of which is the *alga-marina*, so much used in the glass trade. See the article **GLASS**.

ALGAROT, or **ALGAREL**, among chemists, an arabic term for an emetic powder, prepared from regulus of antimony dissolved in acids, and separated again by repeated lotions in lukewarm water. By evaporating two third parts of all these lotions, is obtained a very acid liquor, called *spirit of philosophic vitriol*.

ALGARVA, the most southerly province of the kingdom of Portugal. See the article **PORTUGAL**.

ALGEBRA, a general method of computation by certain signs and symbols; or it is the method of resolving problems by means of equations. See **EQUATION**. Some call algebra specious, literal, or universal arithmetic. Others define it to be the art of resolution and equations. Cardan calls it very justly, *ars magna*, the great art.

From the Arabians, the Moors and Saracens brought this art into Spain; from whence it came into England, and that before we knew any thing of Diophantus, a greek writer who published a system of algebra about the year 800 of the christian era.

To the facility, conciseness, and great extent of the algebraical method of computation, may, in a great measure, the modern improvements in geometry and the other branches of mathematics be ascribed. It has, indeed, been accused of

obscurity, but without reason; for as we have no ideas more clear or distinct than those of numbers, it frequently happens that more satisfactory knowledge is obtained from computations, than from constructions.

The obscurity complained of, has chiefly arisen from the use of the negative sign. See the article **NEGATIVE**.

Algebra is of two kinds, numeral and literal.

Numeral ALGEBRA, that wherein all the given quantities are represented by numbers, and only the unknown quantity expressed by some letter or other symbol. This is otherwise called vulgar algebra, and was that used by the antients.

Literal or Specious ALGEBRA, that wherein all the quantities, known as well as unknown, are expressed by letters of the alphabet.

This way of notation pleases the mind, assists the imagination, and eases the memory: neither is it, like the *numeral*, limited to certain kinds of problems, but serves equally for the investigation and demonstration of all theorems and problems both arithmetical and geometrical. In this art, the given quantities are generally marked with the first Letters of the alphabet, *a, b, c, d, &c.* and the quantities sought are distinguished by the last letters, *z, y, x, &c.* but Harriot, and some others, denote the unknown quantities by vowels, and the known by consonants.

We have a multiplicity of books on this subject; but those of Saunderfon, Simpson, and Maclaurin, are undoubtedly the best.

As to the several rules and operations of algebra, they will be treated of under their respective articles. See the articles **ADDITION**, **SUBTRACTION**, &c.

ALGEBRAIC, or **ALGEBRAICAL**, denotes any thing belonging to algebra. Thus we say algebraical characters, algebraical curve, &c. See the articles **CHARACTER**, **CURVE**, &c.

ALGENEB, a fixed star of the second magnitude, on the right shoulder of the constellation Perseus. See **PERSEUS**.

ALGHER, or **ALGERI**, a city on the north-west coast of the island of Sardinia, situated in E. longitude $8^{\circ} 40'$, and N. latitude $41^{\circ} 30'$.

ALGIERS, a kingdom of Africa, situated between 30 and 37 degrees of N. latitude; and between 1° W. and 9° E. longitude. It is bounded by the Mediterranean on

the north, by the kingdom of Tunis on the east, by mount Atlas on the south, and by the river Mulvia, which separates it from the empire of Morocco, on the west; extending 600 miles from east to west, along the barbarary coast.

The Turks, who are masters of this kingdom, are but few in number in comparison of the Moors, or natives, who have no share in the government. The Arabs who live in tents are distinct from either.

The dey of Algiers is an 'absolute, tho' an elective monarch. He is chosen by the turkish soldiers only, and is frequently deposed, or even put to death, by them.

ALGIERS is also the name of the capital of the above-mentioned kingdom, situated near the mouth of the river Safran, on the Mediterranean-sea, opposite to the island of Majorca; its E. longitude being $3^{\circ} 20'$, and its N. latitude $36^{\circ} 40'$.

ALGOL, the name of a fixed star of the third magnitude in the constellation Perseus, otherwise called *Medusa's head*.

ALGONQUIN, one of the two principal languages spoken in North America, viz. from the river of St. Lawrence to that of Mississippi; the other, which is called Huron, being spoken in Mexico.

ALGORITHM, an arabic term, not unfrequently used to denote the practical rules of algebra, and sometimes for the practice of common arithmetic; in which last sense, it coincides with *logistica numeralis*, or the art of numbering truly and readily.

Hence we meet with the algorithm of integers, algorithm of fractions, &c. See the articles **INTEGER**, &c.

ALHAMA, a small town of Granada in Spain, surrounded with hills, and situated about twenty-five miles S. W. of Granada. W. lon. 4° , N. lat. 37° .

ALHIDADE, or **ALIDADE**, a term of arabic origin, signifying the index or diopter of a mathematical instrument for taking heights and distances. See the article **DIOPTER**.

ALHIRTO, otherwise called **ROSTRUM GALLINÆ**, in astronomy, a fixed star of the third magnitude in the constellation capricorn.

ALI gives the denomination to a sect, or division, among the Mahometans, who adhere to the right of succession of Ali, the fourth caliph, or successor of Mahomet, and the reform of musselmanism introduced by him.

The sectaries of Ali, are more particularly called Schiites, and stand opposed to the

the Sunnites, or sect of Omar, who adhere to the law, as left by Mahomet, Abubeker, and Omar. Ali was cousin of Mahomet, and son-in-law of that prophet, having married his daughter Fatimah. After Mahomet's death, great disputes arose about the succession; many stood for Ali, but Abubeker was preferred, and elected the first caliph. Ali took his turn, after the death of Othman.

The Persians are the chief adherents to the sect of Ali, whom they hold to have been the legitimate successor of Mahomet, and Abubeker an usurper. On the contrary, the Turks are of the sect of Omar, and hold Ali in execration, having raised a furious civil war among the mussulmen.

ALICANT, a large sea-port town of Spain, in the province of Valencia, with a very strong castle. It is situated in W. longit. 30' and N. latitude 38° 35'.

ALIEN, in law, a person born in a strange country, not within the king's allegiance, in contradistinction from a denizen or natural subject.

An alien is incapable of inheriting lands in England, till naturalized by an act of parliament. No alien is intitled to vote in the choice of members of parliament, has a right to enjoy offices, or can be returned on any jury, unless where an alien is party in a cause; and then the inquest of jurors shall be one half denizens and the other aliens.

ALIEN-DUTY, an impost laid on all goods imported by aliens, over and above the customs paid for such goods imported by british, and on british bottoms. See the article **DUTY**.

ALIEN-PRIORIES, a kind of inferior monasteries, formerly very numerous in England, and so called from their belonging to foreign abbies.

ALIENABLE, denotes something that may be alienated. See **ALIENATION**.

All estates are alienable; except those in tail and for life: a bond too, with condition not to alien, is said to be good.

ALIENATION, *alienatio*, in law, denotes the act of making over a man's property in lands, tenements, &c. to another person.

To *alien* or *alienate* in fee, is to sell or convey the fee-simple of lands, &c.

Alienation, in mortmain, is making over lands, tenements, &c. to a body politic, or to a religious house, for which the king's licence must first be obtained, otherwise the lands, &c. aliened will be

forfeited. See the article **MORTMAIN**. Alienation of crown lands is always supposed to be made under a faculty of perpetual redemption.

A perpetual copy-hold is also a kind of alienation.

ALIENATION, in roman antiquity, was used for a father's discarding a son in his own life-time. See **ABDICATION**.

ALIENATION-OFFICE is that to which are carried all writs of covenants and entry upon which fines are levied, in order to have fines for alienation set upon them.

ALIFORMIS, in anatomy, the name of a pair of muscles arising from the pterygoide bones, the process of the os cuneiforme, with a beginning partly nervous, and partly fleshy, and ending in the neck of the lower jaw towards the internal seat of the head.

ALIFORMIS PROCESSUS, a name sometimes given to the prominences of the os cuneiforme. See **CUNEIFORME**.

ALIMENT, in a general sense, whatever contributes to the nourishment of a body, whether animal or vegetable.

Aliment, among physicians, signifies whatever is capable of nourishing the human body. Aliment is either animal or vegetable, of an attenuating or incrassating nature; and with respect to the taste, is sweet, fat, acid, astringent, saluginous, bitter, and acrid. See **DIET**, **FOOD**, **DIGESTION**, and **SANGUIFICATION**.

Aliment should always be of a lower nature than the body nourished; for too near an approximation or similarity of substance betwixt the aliment and the body to be nourished, succeeds but badly.

ALIMENT is also sometimes used in a synonymous sense with alimony. See the article **ALIMONY**.

ALIMENTARY, in a general sense, a term applied to whatever belongs to aliment or food.

ALIMENTARY DUCT, a name by which some call the intestines, on account of the food's passing through them.

Morgan in his mechanical practice of physic, considers the alimentary duct as a great gland; the lacteals being its secretory vessels, and the intestines from the pylorus to the anus its vas expurgatorium.

Some make the alimentary duct to be the true characteristic of an animal. See the article **ANIMAL**.

Alimentary duct is sometimes also used for the thoracic duct. See **THORACIC**.

ALIMENTARY CHILDREN, *alimentarii pueri*,

pueri, in roman antiquity, an appellation given to those educated in houses, not unlike our hospitals, erected for that purpose. There were likewise alimentary girls, *alimentaria puella*, who owed their maintenance to the bounty of several empresses, as the boys did theirs to that of the emperors.

ALIMENTARY LAW, among the Romans, that whereby children were obliged to maintain their aged parents.

ALIMONY, *alimonia*, in law, denotes the maintenance sued for by a wife, in case of a separation from her husband, wherein she is neither chargeable with elopement nor adultery.

Antiently, this was recoverable only in the spiritual courts, but at present may be obtained in chancery.

ALIPILARIUS, or **ALIPILUS**, in roman antiquity, a servant belonging to the baths, whose business it was by means of waxen plasters and an instrument called *volsella*, to take off the hairs from the arm pits, and even arms, legs, &c. this being deemed a point of cleanliness.

ALIQUANT parts, in arithmetic, those which will not divide or measure the whole number exactly. Thus 7 is an aliquant part of 16, for twice 7 wants 2 of 16, and three times 7 exceeds 16 by 5.

ALIQUOT part, is such part of a number as will divide and measure it exactly without any remainder. — For instance, 2 is an aliquot part of 4, 3 of 9, and 4 of 16.

To find all the aliquot parts of a number, divide it by its least divisor, and the quotient by its least divisor, until you get a quotient not farther divisible, and you will have all the prime divisors or aliquot parts of that number. Thus 60 divided by 2, gives the quotient 30, which divided by 2 gives 15, and 15 divided by 3, gives the indivisible quotient 5. Hence the prime aliquot parts are 1, 2, 3, 5; and by multiplying any two or three of these together, you will find the compound aliquot parts, *viz.* 4, 6, 10, 12, 15, 20, 30.

Aliquot parts must not be confounded with commensurable ones; for though the former be all commensurable, yet these are not always aliquot parts: thus 4 is commensurable with 6, but is not an aliquot part of it. See the article **COMMENSURABLE**.

ALISMA, GREAT WATER PLANTAIN, in botany, a genus of the hexandria polygynia class of plants, the calyx of which

is a perianthium composed of three oval, hollow, permanent leaves; the corolla consists of three, large, roundish, plane, and very patent petals; the fruit consists of capsules, arranged together in a roundish or trigonal form: the seeds are single and small.

ALITES, in roman antiquity, a designation given to such birds as afforded matter for auguries by their flight; in which sense, they are contradistinguished from those called *oscines*. See **OSCINES**.

ALKA, in ornithology, a bird of the anseres, or goose-kind, about the size of a duck, and all over black except the breast and belly which are white: it is called in english the *awk* or *razor-bill*. See plate XIII. fig. 1.

ALKAHEST, or **ALCAHEST**; among chemists, denotes an universal menstruum capable of resolving all bodies into their *ens primum*, or first matter; and that without suffering any change, or diminution of force by so doing.

Van Helmont assures us, in the most positive manner, that he himself was master of such a menstruum; concerning which many have been the opinions and hypotheses of chemists. Some have had sanguine expectations of finding an alkahest in sea-salt, and mercury; others from nitre; in short, there are few bodies, but some one or other has fixed on as the subject of his researches after this so much famed menstruum. But the most general opinion is, that it is to be obtained from human urine. We are told, that the matter of this dissolvent is both base and precious; that it costs nothing; that all men have it in their power; that Adam carried it with him when he went out of Paradise; that it is concealed in the microcosm, and very powerful in the macrocosm; in short, that it is human urine.

Paracelsus uses no synonymous terms for the alkahest; but Helmont calls it *ignis aqua*, *ignis gebennæ*, and *summum et felicissimum omnium salium*. He adds, that it was no natural production, but solely to be obtained by art.

Alkahest, according to Starkey, is composed of three principles: a volatile urinous salt; an intermediate spirit, or essential oil of urine; and an acid nowise corrosive, which is nothing but the vinous spirit of urine. When the oily spirit has coagulated the salt, both are to be dissolved by the vinous spirit, which will likewise unite with them by fermentation.

tion. This operation is to be repeated, till the whole becomes an entirely fiery and spirituous essence, or what is the same thing, a salt without phlegm.

Various other processes are delivered, by different authors, for obtaining an alkalest; which, it is said, will transmute stones, gems, metals, and in general, all bodies whatever, whether belonging to the animal, vegetable, or mineral kingdom, into an actual salt, equal in quantity to their whole bulk.

It is an observation of Boerhaave, that nothing in all nature is more surprising than the change of bodies attributed to the action of this menstruum; inasmuch as they are changed into a quite different matter, without losing any of their virtues or weight in the operation. By means of alkalest, the most solid bodies, not excepting gold and gems, are said to be changed into a saline volatile substance, which contains all their virtues, and is capable of mixing with animal fluids. In this state they become potable, in the true sense of the word; for what the chemists mean by potable gold, is only gold reduced to a saline and soluble substance, capable of circulating thro' all the vessels of the human body.

Another equally surprising property of alkalest, is its being able to dissolve all these bodies, without mixing with, or suffering any change from them; so that it must produce its effects, by only acting externally upon the subject.

After all, many great chemists have doubted whether it be possible to obtain such an universal menstruum, as the alkalest is represented to be. Those who desire a more particular account of the alkalest, may consult Boerhaave's elements of chemistry; also Starkey, Pelletier, Juncker, Baldwin, &c. who have all treated of this subject.

ALKALI, among chemists and physicians, an appellation given to all substances which excite a fermentation when mixed with acids.

Originally the term alkali signified only the salt extracted from the ashes of kali or glass-wort; afterwards, it was used for the salts of all plants, extracted in the same manner; and as these were observed to ferment with acids, the signification of the term was still farther extended, so as to comprehend whatever substances had this effect.

Alkalies, or alkaline substances, are therefore of various and widely different

kinds. Some are earthy, as quick-lime, marble, and sealed earths; others metalline, as gold, silver, tin, &c. others of animal origin, as shells, bezoars, the calculus humanus, &c. and lastly, all the stony submarine plants, as coral. Alkalies are either fixed, as salt of tartar, and oil of tartar *per deliquium*; or volatile, as spirit of hartshorn. The fixed may be distinguished from the volatile, as the former will give a red orange colour to a solution of quick-silver by the spirit of nitre; whereas the latter gives to this solution a white milky colour. But every alkaline substance, whether fixed or volatile, being mixed with the juices of turnsol, roses, or violets, presently changes their natural colours to a green. It must be observed, that no vegetables can afford an alkaline salt without the action of fire; on the contrary, if suffered to dry or rot spontaneously, they vanish or change their form, without leaving the least fixed alkali behind. Hence we may conclude, that fixed alkaline salts have their nature imparted to them by fire, and not by any natural vegetable operation.

There is, however, a natural fixed alkali of the mineral kind, namely natrum, which is more common than is generally imagined, and is often found in mineral waters. Of the several kinds of fixed alkalies, the most common is that called by the name of pot-ash.

The gross lee which wines deposite after fermentation, being pressed dry, and burnt to ashes, afford likewise a fixed alkali, which may also be produced from fixed nitre, from tartar and nitre mixed, and regulus of antimony.

It is evident, from repeated experiments, that all fixed alkalies are endowed with the power of attracting water, air, pure alcohol, oil and acids, though of these last, they attract some more strongly than others.

Alkalies are used in medicine to resolve and fuse tenacious coagulations of the juices, to open obstructions, attenuate the fluids, gently stimulate the solids, promote perspiration, sweat, urine, and a discharge of all acid humours, by means of a neutral purgative salt, which they form with the acid in the intestines.

Whether any volatile alkali exists in nature, without the assistance of putrefaction, or distillation, is not easy to determine; but it is certain, that both animal and vegetable substances yield these salts in

in great plenty. The most remarkable are animal salts, which may be procured by distillation from every animal substance, as hartshorn, blood, silk, cobwebs, &c. The hypothesis of acid and alkali was formerly in great esteem. The patrons of this hypothesis asserted that alkalies and acids were the universal principles of all bodies; and from hence accounted for every phenomenon of nature. But experience has demonstrated their system to be false and insignificant. See ACID.

ALKALINE, in a general sense, a term applied to all such things as have the properties of an alkali. See ALKALI.

ALKALIZATION, among chemists and physicians, denotes the impreguating a liquor with alkaline salts.

ALKALY, the same with alkali. See the article ALKALI.

ALKEKENGI, WINTER-CHERRY, in botany, the name of a distinct genus of plants, the flower of which consists of one leaf, of a rotated form, and divided into several segments. This is succeeded by a soft fruit, resembling a cherry in shape, and containing a number of flat seeds. See plate XIII. fig. 2.

This genus is called by Linnæus, *phyfalis*, and makes one of the pentandria monogynia class of the same author.

ALKERMES, in pharmacy, a compound cordial medicine, of the form and consistence of a confection. It is made of various ingredients, as rose-water, sugar, cinnamon, aloes-wood, &c. but the principal one is kermes. See KERMES.

ALKORAN. See the article ALCORAN.

ALL-HALLOWS, or **ALL-SAINTS**, a festival observed by most denominations of christians, in commemoration of all the saints in general. It is kept on the first of November.

The number of saints being so excessively multiplied, it was found too burdensome, to dedicate a feast day to each. In reality there were not days enough, scarce hours enough, in the year for this purpose. Hence an expedient was had recourse to, by commemorating such in the lump as had not their own days. Boniface IV. in the ninth century, introduced the feast of all-saints in Italy, which was soon after adopted into the other churches.

ALL SAINTS BAY, or *Baía de todos santos*, a spacious harbour near St. Salvador in Brazil, in south America, on the atlantic ocean, W. longitude 40°. S. latitude 12°.

ALL-SOULS, a festival kept in commemoration of all the faithful deceased, on the second of November.

The feast of all-souls was first introduced in the eleventh century, by Odilon abbot of Cluny, who enjoined it on his own order; but it was not long before it became adopted by the neighbouring churches.

ALLANTOIS, or **ALLANTOIDES**, in comparative anatomy, a vesicle investing the foetus of several animals, as cows, sheep, goats, &c. and filled with an urinous liquor conveyed thither from the urachus. The word allantoides is derived from *αλλας*, a gut, and *ειδος*, shape.

As to the existence of the allantois in the human species, anatomists are by no means agreed; some contending for it, and others denying it.

Several anatomists, who dispute the existence of the human allantois, allow of an intermediate membrane in the human species, between the chorion and amnios, but deny it the appellation of an allantois, as holding it to differ from the allantoides of brutes, in structure, as well as office.

Harvey will not allow an allantois even in brutes, but fancies the allantois and the chorion to be the same membrane, only with two names; the first derived from its shape, the second from its office.

According to his opinion, the foetus does not void any urine, but the whole is contained in the bladder, till the time of birth. Hale resolves all these difficulties.

Heister lay under the same incredulity with Harvey; but has lately published his recantation in form. Galen, and most of the antients, it is certain, not only hold the allantois and chorion for distinct membranes, but allow an allantois to the human foetus; though this, it is to be observed, they did not so much from their experience of it, as from a supposed conformity between the viscera, &c. of men, and of brutes. Hence the accounts they have left as to the figure, situation, &c. of the allantois, agree only to their appearance in brutes. Galen describes the allantois as part of the navel-string, resembling a pudding, and reaching from one corner of the uterus to the other.

ALLAY, the same with alloy. See the article ALLOY.

ALLEGATION, *allegatio*, in a law sense, signifies the producing instruments, or deeds, to authorize or justify something.

ALLEGA-

ALLEGATION, in matters of literature, is the quoting an author in regard to the subject in hand.

ALLEGIANCE, in law, denotes the obedience which every subject owes to his lawful sovereign.

Oath of ALLEGIANCE, in the british policy, that taken in acknowledgment of the king, as a temporal prince; as the oath of supremacy acknowledges him for the supreme head of the church.

The oath of allegiance, taken by the people to the king, is only the counterpart to the coronation oath, taken by the king to the people, and as such, partakes of the nature of a covenant; that is, is conditional, and ceases on a violation of the contract by the prince; at least this is the doctrine of some of the chief advocates for the revolution. The anti-revolutioners, on the contrary, hold the oath of allegiance to be absolute and unconditional.

ALLEGORICAL, a term applied to whatever belongs to, or partakes of the nature of an allegory. See **ALLEGORY**.

ALLEGORY, *αλληγορία*, in matters of literature, a mode or species of writing, wherein something else is signified than the words, in their literal meaning, express. An allegory may be considered as a series or chain of metaphors, continued through a whole discourse. For example, when the prophets represent the Jews under the allegory of a vine planted, cultivated and watered by the hand of God, which instead of producing good fruit, brings forth verjuice and sour grapes.

Allegories have entered into most religions; the jews abound with them, and it is well known that some philosophers of the gentile world, undertaking to give a rational account of the many shocking absurdities which the poets had introduced into their religion, found it necessary to maintain that these fictions contained mysteries, and signified something very different from what they seemed to express. Hence came the word allegory, or a discourse that in its natural sense, *αλλο ερμηνευει*, signifies some other thing than what seems intended to be meant.

Allegory includes parable, apologue, *μυθος*, or fable, and parœmia, or proverbs; at least, under allegories are comprehended such proverbs as are applicable to subjects of different kinds.

Scaliger considers allegory as one part, or

side of a comparison. It differs from irony, in that allegory imports a similitude between the thing spoken and intended; irony a contrariety between them.

Some have allegorized, or reduced to allegory, whole sciences, as heathen theology, mythology, ancient history, poetry, cosmogony, theogony, and most of the wisdom of the antients, as well as of the moderns. By the help of allegory, we find natural philosophy in Moses, chemistry in the ancient poets, sublime and spiritual things in low, vulgar, or gross ones, wonderful discoveries in rabbinical fables, admirable sense and harmony, instead of contradiction, blunder, and folly. Allegories have been in use in all ages and countries; we find them particularly among the orientals, and the Egyptians, who are supposed to have been the fathers of them. They were adopted by the ancient Jews, but more by the Rabbins, and cabbalists of latter days. The Christians borrowed the usage very early; the primitive fathers abound with them. The Mahometans also give into allegory, where the literal sense of the alcoran is liable to objections, particularly in the carnal account of paradise. The Gnostics, Valentinians, and Basilidians, appear to have been great dealers in allegory; at least if the conjectures of moderns be not here mistaken, who resolve the doctrine of the Æons, of Abraxa's, &c. into the allegorical system.

The great source of allegory, or allegorical interpretations, is some difficulty, or absurdity, in the literal and obvious sense. — For a refuge, either to save the reputation of the writer, or conceal the ignorance of the commentator, recourse is had to the expedient of allegory. The mischief is, as there are no certain laws, or rules, whereby to conduct, moderate, and restrain the spirit of allegorizing, we find strange confusion, and endless discord the fruit of it.

Allegories are distinguished into divers kinds: as, verbal, real, simple, allusive, physical, moral, political, theological, &c.

ALLEGRO, in music, an italian word denoting that the part is to be played in a sprightly, brisk, lively, and gay manner. Allegros move swifter in triple than in common time. See the article **TIME**.

Piu-allegro, signifies that the part it is joined to, should be sung or played quicker; as

Poco piu allegro, intimates that the part to which it refers ought to be played or

fung only a little more briskly than allegro alone requires.

ALLELUJAH, among ecclesiastical writers. See the article HALLELUJAH.

ALLEMAND, a sort of grave solemn music, with good measure and a slow movement.

ALLEMANNIC, in a general sense, denotes any thing belonging to the antient Germans. Thus we meet with allemannic history, allemannic language, allemannic law, &c.

The allemannic law, as well as language, prevailed in the more southern parts of Germany, as the saxon law did in the northern.

ALLENDORF, a little city in the land-gravate of Hesse Cassel, in Germany, situated upon the river Wefer, E. longit. 10°. N. latitude 51° 30'.

ALLER, a river which runs through the duchy of Lunenburg, and falls into the Wefer, a little below Verden.

ALLERION, or **ALERION**, in heraldry, a sort of eagle without beak or feet, having nothing perfect but the wings.

They differ from martlets in that their wings are expanded, whereas those of the martlet are close; and denote imperialists vanquished and disarmed, for which reason they are more common in french than in german coats of arms.

ALEU, or **ALLODE**. See the articles ALLODIAL and ALLODIUM.

ALLEVIARE, in old records, signifies to levy or raise an accustomed fine or composition.

ALLEVIATION is the act of making a thing lighter or more easy to be born.

ALLEY, in gardening, a strait parallel walk, bounded on both sides with trees, shrubs, &c. and usually covered with gravel or turf.

An alley should be broad enough for two persons to walk a-breast, and therefore should not be less than five feet in width. By this it is distinguished from a path. Some say, that an alley ought never to exceed fifteen feet in breadth.

Covered alley, that over which the branches of the trees meeting, form a shade.

Alley in ziczac, that which having too great a descent, is apt to be damaged by floods.

Alley of compartment, that which divides the squares of a parterre. See the article PARTERRE.

ALLEY, among builders, denotes a narrow passage leading from one place to another.

ALLEY, in perspective, that which, in order to have a greater appearance of length, is made wider at the entrance than at the termination.

Counter alleys are little alleys by the sides of the great ones.

ALLIANCE, in the civil and canon law, the relation contracted between two persons or two families by marriage.

An alliance is thus contracted between the husband and his wife's relations, between the wife and her husband's relations, but not between the relations of the husband and wife.

ALLIANCE is also used for a treaty entered into by sovereign princes and states, for their mutual safety and defence.

In this sense, alliances may be distinguished into such as are offensive, whereby the contracting parties oblige themselves jointly to attack some other power; and into defensive ones, whereby they bind themselves to stand by and defend each other, in case they are attacked by others. Under this head too may be ranked treaties of subsidy.

ALLIANCE, in a figurative sense, is applied to any kind of union or connection: thus we say, there is an alliance between the church and state.

ALLIGATION, in arithmetic, is the rule of mixture, which teaches to compound several species of ingredients or commodities together, according to any intent or design proposed; and is either medial or alternate.

ALLIGATION medial shews the rate or price of any mixtures, when the several quantities of the mixture, and their rates, are known.

Rule: multiply each quantity given, by the price; and then, by direct proportion, say, as the sum of the quantities given, to the sum of the products; so is any part of the mixture, to the value of that part. Example: a goldsmith melts 3 oz. of gold, at 4 l. 6 s. 8 d. per ounce, with 12 oz. at 4 l. per ounce, and 8 oz. at 4 l. 5 s. per ounce: when they are all melted together, one ounce will be found to be worth 4 l. 2 s. $\frac{7}{3}$ d. Thus,

| | | | |
|-----|----------|-----------------------------|---|
| oz. | l. s. d. | | |
| 3 | at 4 6 8 | multiplied together produce | $\left. \begin{array}{l} 13 \\ 48 \\ 34 \end{array} \right\}$ |
| 12 | 4 0 0 | | |
| 8 | 4 5 0 | | |
| 23 | Sum | | Sum 95 |

oz. l. oz. l. s. d.

Then as 23 : 95 :: 1 : 4 2 $\frac{7}{3}$ Answ.

ALLIGATION alternate teaches to mix goods,

goods, of different prices, in such proportion, that the mixture may be sold for any price proposed.

Rule: set down the names of the things to be mixed, together with their prices; then, finding the difference between each of these, and the proposed price of the mixture, place these differences in an alternate order, and they will shew the proportion of the ingredients. Thus,

To find in what proportion rum at 10 s. the gallon, ought to be mixed with brandy at 4 s. the gallon, that the mixture may be sold for 8 s. the gallon: first set down the rum and brandy, together with

Rum 10—8
Brandy 4—8 $\times \frac{4}{2}$

their prices, as in the margin; then finding the difference be-

tween 8, the proposed price, and 4, the price of the brandy, place this difference,

viz. 4. alternately, that is opposite to the rum: and, after the same manner, place the difference between 10 and 8, *viz.* 2, opposite to brandy: then will 4 and 2 shew the proportion of the rum to the brandy, that is, there must be four gallons of rum for two gallons of brandy. Those who are curious to have a fuller explanation of this rule, may consult Ward, Wallis, Taquet, Malcom, and other books on arithmetic.

ALLIGATOR, in zoology, a name given to the smaller kind of crocodiles in the West-Indies. See **CROCODILE**.

An alligator smells so strong of musk as to affect the water and air at a considerable distance.

ALLIOTH, a star in the tail of the greater bear, much used for finding the latitude at sea.

ALLIUM, **GARLICK**, in botany, the name of a genus of plants, the characters and uses of which see under **GARLICK**.

ALLOCATION, *allocatio*, the admitting or allowing of an article in an account, particularly in the exchequer. Hence

ALLOCATIONE FACIENDA is a writ directed to the lord treasurer, or barons of the exchequer, commanding them to allow an accountant such sums as he has lawfully expended in the execution of his office.

ALLOCATO COMITATU, a new writ of exigent allowed, before any other county-court held, on a former not being complied with. See the article **EXIGENT**.

ALLODIAL, an epithet given to an inheritance held without any acknowledgment to a lord or superior, in opposition to feudal. See the article **FEUDAL**.

Allodial lands are free lands; for which neither fees, rents, nor services are due. See the article **ALLODIUM**.

ALLODIARIUS, or **ALODIARIUS**, in our old writers, denotes the proprietor of an allodium. See the next article.

ALLODIUM, or **ALLEUD**, denotes lands which are the absolute property of their owner, without being obliged to pay any service or acknowledgment whatever to a superior lord; in which sense they stand opposed to feudal lands, which pay a fee to some superior.

Allodium nobile, that which had also civil and criminal jurisdiction annexed to it; in opposition to *allodium villanum*, which had no such jurisdiction.

ALLOM, the same with **alum**. See the article **ALUM**.

ALLONGE, in fencing, denotes a thrust or pass at the adversary. See **PASS**.

ALLOPHYLUS, in botany, a genus of the octandria monogynia class of plants, the calyx of which is a perianthium composed of four leaves of an orbicular figure, and two opposite ones smaller than the others; the corolla consists of four petals less than the cup, of an orbicular figure, and equal one to another, with large unguis of the same length with the smaller leaves of the cup. The characters of the fruit and seed are not ascertained.

ALLOTTING, or **ALLOTMENT** of goods, in commerce, is the dividing a ship's cargo into several parts, which are to be purchased by several persons, whose names being written upon as many slips of paper, are applied by an indifferent person to the several lots; by which means the goods are divided without partiality, each man having the parcel upon which his name is fixed.

ALLOWANCES, at the custom-house, to goods rated by weight, are two, *viz.* draught and tare. See the articles **DRAUGHT** and **TARE**.

ALLOWED, a word written in the margin of an account of expences over against such articles as are admitted to be reasonable.

ALLOY, or **ALLAY**, a proportion of a baser metal mixed with a finer one. Thus all gold coin has an alloy of silver and copper, as silver coin has of copper alone; the proportion in the former case, for standard gold, being two carats of alloy in a pound troy of gold; and in the latter eighteen penny-weight of alloy for a pound troy of silver.

According as gold or silver has more or less alloy than that mentioned above, it is said to be coarser or finer than the standard. However, it ought to be remarked, that the coin of different nations varies greatly in this respect; some using a larger, and others a less proportion of alloy, the original intention of which was to give the coin a due degree of hardness. There is a method of examining, by means of touch-needles, what proportion of alloy is contained in any coin. See the article TOUCH-NEEDLE.

ALLOM, the same with alum. See **ALUM**.

ALLUSION, in rhetoric, a figure by which something is applied to, or understood of another, on account of some similitude between them.

An allusion to words is trifling and low, making what we commonly call a pun. See the article **PUN**.

However, allusions to some apophthegm, remarkable event, or generally received custom, are not only extremely pleasing, but approved by the best writers, ancient as well as modern.

ALLUVION, *alluvio*, among civilians, denotes the gradual increase of land along the sea-shore, or on the banks of rivers. This, when slow and imperceptible, is deemed a lawful means of acquisition; but when a considerable portion of land is torn away at once, by the violence of the current, and joined to a neighbouring estate, it may be claimed again by the former owner.

ALLY, *socius*, in matters of polity, a sovereign prince or state, that has entered into alliance with others. See the article **ALLIANCE**.

ALMACANTARS, the same with almucantars. See **ALMUCANTARS**.

ALMACARRON, a port-town of Spain, in the province of Murcia, at the mouth of the river Guadalentin: west longitude $1^{\circ} 15'$, north latitude $37^{\circ} 40'$.

ALMADE, a town of Spain, in the province of la Mancha, in the kingdom of Castile, situated upon the top of a mountain, where are the most ancient, as well as the richest silver mines in Europe.

ALMADIE, a kind of canoe, or small vessel, about four fathom long, usually made of bark, and used by the negroes of Africa.

Almadie is also the name of a kind of long boats, fitted out at Calicut, which are eighty feet in length, and six or seven in breadth. They are exceeding swift, and are otherwise called *calburi*.

ALMAGEST, in matters of literature, is particularly used for a collection or book composed by Ptolemy, containing various problems of the ancients both in geometry and astronomy.

Almagest is also the title of other collections of this kind. Thus, Riccioli has published a body of astronomy, which he calls the *New almagest*; and Plukenet, a book which he calls *Almagestum botanicum*.

ALMAGRA, in natural history, the name of a fine deep-red ochre, with a faint admixture of purple, used both in painting and medicine, being an excellent astringent. It is the same with what the ancients called *fil atticum*.

ALMANAC, in matters of literature, a table containing the calendar of days and months, the rising and setting of the sun, the age of the moon, &c.

Authors are neither agreed about the inventor of almanacs, nor the etymology of the word; some deriving it from the arabic particle *al*, and *manab*, to count; whilst others think it comes from *almanab*, *i. e.* handfels, or new year's gifts, because the astrologers of Arabia used, at the beginning of the year, to make presents of their ephemerides for the year ensuing.

As to the antiquity of almanacs, Ducange informs us, that the egyptian astrologers, long before the Arabians, used the term *almenach*, and *almenachica descriptio*, for their monthly predictions. Be this as it will, Regiomontanus is allowed to have been the first who reduced almanacs to their present form.

Construction of ALMANACS. The first thing to be done, is to compute the sun's and moon's place for each day in the year, or it may be taken from some ephemerides and entered in the almanac; next, find the dominical letter, and, by means thereof, distribute the calendar into weeks; then, having computed the time of easter, by it fix the other moveable feasts; adding the immoveable ones, with the names of the martyrs, the rising and setting of each luminary, the length of day and night, the aspects of the planets, the phases of the moon, and the sun's entrance into the cardinal points of the ecliptic, *i. e.* the two æquinoxes and solstices.

These are the principal contents of almanacs; besides which there are others of a political nature, and consequently different in different countries, as the birth-days

days and coronation of princes, tables of interest, &c.

On the whole, there appears to be no mystery, or even difficulty, in almanac-making, provided tables of the heavenly motions be not wanting. For the duties upon almanacs, see **STAMP-DUTIES**.

ALMANZA, a little town in the province of New Castile in Spain, remarkable for the defeat of the confederate army by the French, is 1707° west longitude 1° 15', north latitude 39°.

ALMEDA, a town in the province of Estremadura, in Portugal: west longitude 9° 40', north latitude 38° 40'.

ALMEDIA, a frontier town in the province of Tralos Montes, in Portugal: west longit. 7°, north latitude 40° 40'.

ALMEHRAB, in the mahometan customs, a nich in their mosques, pointing towards the kebla, or temple of Mecca, to which they are obliged to bow in praying. See the article **KEBLA**.

ALMIGGIM-WOOD, in the scripture-language, is thought to be that of the indian pine-tree; which being exceeding light, and of a beautiful white colour, was greatly esteemed for making musical instruments.

ALMOND, the fruit of the almond-tree. See the next article.

ALMOND-TREE, *amygdalus*, in botany, the english name of a distinct genus of trees, with rosaceous flowers, and an oblong stony fruit, in which is included a kernel of the same shape. See plate XVI. fig. 4. This genus belongs to the *icosandriamonoxyia* class of Linnæus, who makes it comprehend both the *amygdalus* and *persica*, or peach-tree, of other botanists. Of the several species of almonds, the sweet and bitter kinds are most used in medicine; the former being reputed cooling, healing, emollient, and nutritive; and the latter, aperient, deterfive, and diuretic.

We have several preparations of almonds, as blanchéd almonds, or those which have been steeped in warm water, till they dropped out of their shells; butter of almonds, made by adding blanchéd almonds to a preparation of cream and the whites of eggs boiled together; almond-milk, made of sweet blanchéd almonds boiled in fair water, and frequently used as a cooler; and so in other instances.

ALMONDS, *amygdalæ*, in anatomy, a name sometimes given to the two glands, more usually called tonsils. See **TONSILS**.

ALMOND-FURNACE, among refiners, that

in which the slags of litharge, left in refining silver, are reduced to lead again, by the help of charcoal.

ALMONER, an officer appointed to distribute alms to the poor.

The lord almoner, or lord high almoner of England, is an ecclesiastical officer, usually a bishop, who has the forfeiture of all deodands, and the goods of felos de se, which he is to distribute among the poor.

By virtue of an antient custom, the lord almoner may give the first dish from the king's table, to whatever poor person he pleases; or, in lieu of it, an alms in money.

The parishioners, also, of the parish adjacent to the king's place of residence, nominate twenty-four poor men, to whom the lord almoner distributes four pence a day in money, bread, and small beer.

To the great almoner of France belongs the superintendency of hospitals, &c. and from his hands the king receives the sacrament.

ALMONER is sometimes also used for a deacon of a church, a chaplain, or even a legatee.

ALMONRY, **AUMBRY**, or **AMBRY**. See the article **AMBRY**.

ALMS, *elemosynæ*, a general term for what is given out of charity to the poor.

In the early ages of christianity, the alms of the charitable were divided into four parts, one of which was allotted to the bishop, another to the priests, and a third to the deacons and sub-deacons, which made their whole subsistence; the fourth part was employed in relieving the poor, and in repairing the churches.

The manner of collecting alms in the assemblies of the primitive christians, is explained by St. Paul, in the ninth chapter of his second epistle to the Corinthians.

Alms also denotes lands or other effects left to churches, or religious houses, on condition of praying for the soul of the donor. Hence, free-alms, was that which is liable to no rent or service. Reasonable alms was a certain portion of the estates of intestate persons, allotted to the poor.

ALMS-BOX, or **ALMS-CHEST**, in churches, and hospitals, &c. a strong box, with a hole or slit in the upper part, to receive the alms of the charitably disposed. Those of churches have three keys, one kept by the parson, and the other two by the church-wardens.

ALMS-

ALMS-FEOH, or **ALMES-FEOH**, a term antiently used for Peter's pence. See the article **PETER'S PENCE**.

ALMS-HOUSE, a kind of petty hospital for the maintenance of a certain number of poor, aged, or disabled persons. Of these there are a great number about London and Westminster; some endowed by public companies, and others by private persons.

ALMUCANTARS, in astronomy, an arabic word denoting circles of the sphere passing through the center of the sun, or a star, parallel to the horizon, being the same as parallels of altitude. See the article **PARALLELS of altitude**.

Almucantars are the same with respect to the azimuths and horizon, that the parallels of latitude are with regard to the meridians and equator. They serve to shew the height of the sun and stars, and are described on many quadrants, &c.

ALMUCANTAR's staff, a mathematical instrument, usually made of box, or pear-tree, having an arch containing fifteen degrees.—It was formerly used to find the altitude of the sun about the time of his rising, in order to find his amplitude, and the variation of the compass.

ALMUCIUM, in middle-age writers, denotes a kind of cover for the head, worn chiefly by monks and ecclesiastics: it was of a square form, and seems to have given rise to the bonnets of the same shape, still retained in universities and cathedrals.

ALMUG-TREE, mentioned in the scriptures, which the vulgate translates *ligna thiyina*, and the septuagint *wrought-wood*, is understood by the best commentators to be a gummy oily sort of a tree, and particularly that which produces gum arabic.

ALMUNECAR, a port-town of Granada, in Spain, situated upon the Mediterranean sea: west longitude $3^{\circ} 45'$, north lat. $36^{\circ} 40'$.

ALNAGE, or **AULNAGE**, in the english polity, the measuring of woollen manufactures, with an ell, and the other functions of the alnager. See the next article. Alnage was at first intended as a proof of the goodness of the commodity, and therefore a seal was invented as a signal, that the commodity was made according to the statute. But now, that these seals may be bought and affixed to whatever commodity the buyer pleases, our rivals have acquired an opportunity

of supplanting our trade with foreign nations, to the great prejudice of our woollen manufactures.

ALNAGER, in the english polity, a public sworn officer, whose business is to examine into the assize of all woollen cloth made throughout the kingdom, and to fix seals upon them. Another branch of his office is to collect an alnage-duty to the king. See the last article.

There are now three officers relating to the alnage, namely, a searcher, measurer, and alnager; all which were formerly comprized in the alnager, until by his own neglect it was thought proper to separate these offices.

ALNUS, the **ALDER-TREE**, in botany, a species of betula, with amentaceous flowers, and fruit of a squamose structure, containing numerous compressed seeds. See plate XIII, fig. 3. and the article **BETULA**.

ALOA, *αλωα*, in grecian antiquity, a festival kept in honour of Ceres, by the husbandmen, and supposed to resemble our harvest-home.

ALOE, in botany, a genus of the hexandria monogynia class of plants, with a liliaceous flower, consisting of only one tubular leaf, divided into six deep segments at the edge: its fruit is an oblong capsule, divided into three cells, and containing a number of angulated seeds. See plate XIII, fig. 4.

Several species of this exotic plant are cultivated in the gardens of the curious, where they afford a very pleasing variety, as well by the odd shape of their leaves as by the different spots with which they are variegated.

Some aloes are arboresecent, or divided into a number of branches, like trees; others are very small, growing close to the ground. The two most considerable species are the aloe of America, and that of Asia; the former on account of its beautiful flowers, and the latter for the drug prepared from it.

ALOE, or **ALOES**, in pharmacy, the inspissated juice of the asiatic aloe, prepared in the following manner: from the leaves, fresh pulled, is pressed a juice, the thinner and purer part of which is poured off, and set in the sun to evaporate to a hard yellowish substance, which is called *succotrine aloe*, as being chiefly made at Succotra. The thicker part, being put into another vessel, hardens into a substance of a liver-colour, and thence called *aloe hepatica*. The thickest part, or sediment

Fig. 1. ALKA, the ARK or RAZOR-BILL.

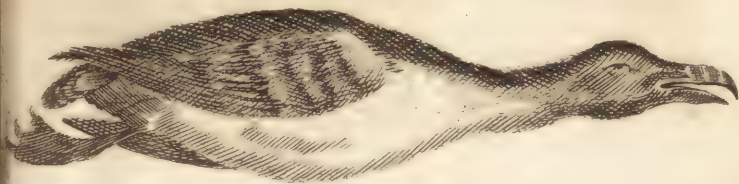


Fig. 2. ALKEKENG1.



Fig. 3. ALNUS, the ALDER - TREE.

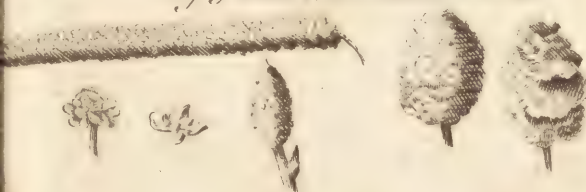


Fig. 4. the ALOE.





ment hardens into a coarse substance, called *aloe cabalina*, or the horse-aloe, as being chiefly used as a purge for horses.

This juice is famous for its purgative virtues, being usually given in the form of a tincture in wine, which is called *biera picra*: it purges off a large quantity of bilious and pituitous humours, and promotes the menses and hæmorrhoidal discharges; but then it should always be administered with caution, and never given to people subject to spitting of blood, or hæmorrhages of any kind. It is also to be avoided in all acute and inflammatory disorders, as well as by women with child, for fear of abortion.

ALOE rosata, a preparation of succotrine aloes, which being dissolved in the juice of roses, or violets, and exposed to the sun, or put upon a slow fire, thickens to a consistency proper for making pills.

Aloes is accounted an excellent purging medicine, especially to cold constitutions, a good stomachic; and, applied outwardly, is extremely serviceable in cicatrizing wounds.

ALOE-WOOD, *lignum aloes*, or *xylo-aloes*. See the article **XYLO-ALOES**.

ALOETICS, a general term for all medicines, the basis or principal ingredient of which is aloes.

Aloetics are reputed hurtful in hæmorrhages, as also in the tenesmus, hæmocranium, &c.

ALOGIANS, in church-history, a sect of antient heretics, who denied that Jesus Christ was the logos or eternal word; and consequently rejected the gospel of St. John, as spurious.

ALOOF, in the sea-language, a word of command from the person who conns to the man at the helm, to keep the ship near the wind, when sailing upon a quarter-wind.

ALOPECIA, in medicine, denotes a falling-off of the hair, occasioned either by a defect of nourishment, or by a bad state of the humours.

Some make a distinction between the *alopecia* and *desuvium capillorum*, as in the former, certain spots are left entirely bald; whereas, in the latter, the hair only grows excessively thin. They likewise distinguish it from the *ophiasis*, as the baldness in this last creeps in spiral lines about the head, like the windings of a serpent. The intention of cure, however, seems to be much the same in them all, viz. to supply proper nourishment, where that is wanting; and to correct the

bad qualities of the humours, where these are in fault.

To prevent the hair from falling off by degrees, the head is to be washed every night at going to bed, with a lye, prepared by boiling the ashes of vine branches in red wine. A powder made by reducing hermodactyls to fine flour, is also recommended for the same purpose.

In cases where the baldness is total, a quantity of the finest burdock roots are to be bruised in a marble mortar, and then boiled in white wine till there remains only as much as will cover them. This liquor, carefully strained off, is said to cure baldness, by washing the head every night with some of it warm. A lye made by boiling ashes of vine branches in common water, is also recommended with this intention. A fresh-cut onion rubbed on the part till it be red, and itch, is likewise said to cure baldness.

ALOPECURUS, **FOX-TAIL-GRASS**, in botany, a genus of the triandria digynia class of plants, the calyx of which is a bivalve glume, containing a single flower: the valves are hollow, of an ovate-lanceolated figure, equal in size, and compressed; the corolla is univalve; the valve is concave, and of the length of the cup, and has a very long arista inserted into its back near the base. There is no pericarpium: the corolla itself remains, and contains the seed, which is single and of a roundish figure.

ALOSA, in ichthyology, a species of *clupea*, with the upper jaw bifid at the extremity, and spotted with black; called in english the shad, or mother of herrings. See the article **CLUPEA**.

ALOST, a town in the austrian Flanders, upon the river Dender, half-way between Brussels and Ghent.

ALLOWAY, a port-town of Scotland, situated on the river Forth, remarkable for the coal mines in its neighbourhood: west longitude $3^{\circ} 45'$, north latitude $56^{\circ} 10'$.

ALPHA, among grammarians, the name of the first letter of the greek alphabet, answering to our A.

The alpha, when compounded with other words, is most frequently used in a privative or negative sense, answering to the english particle *in* or *un*: thus *agamus*, *αγαμῶ*, signifies *unmarried*, being compounded of the privative *a* and *γαμῶ* marriage. Sometimes, however, it augments the signification of the words it is compounded with, as *αἰσῶ*, *valde robustus*. As a numeral, alpha stands for one, or the

the first of any thing ; only, for distinction sake, there used to be an acute accent placed over it, when not a letter of order, thus *Α'*.

Hence it is that we find alpha frequently used among antient writers, for the first or principal person of a class or set of men : thus Plato is called the alpha of wits, as Eratosthenes was surnamed beta, or the second Plato. And, for the same reason, it is used for the beginning of a thing, as omega for the last ; both which together, *viz.* *Α* and *Ω*, denote the eternity of God.

Alpha is also a title given by some antient writers to the jewish legislator Moses. The reason of the appellation is much controverted. Helladius, in his *Chrestomathia*, and Ptolemy son of Hephestion, pretend that Moses was infected with the leprosy, which the greeks call *αλφει*, and that hence arose the denomination *αλφει*. This opinion seems to have owed its rise to a tradition among the heathens, that the Jews were expelled Egypt, because they were over-run with this disease. A tradition supported by Diodorus Siculus, Tacitus, Justin, Apion, and others ; but refuted by Josephus.—A late writer apprehends, that the notion of Moses's leprosy took its rise from that text in the old testament, wherein the prophet, having put his hand into his bosom, drew it out again white as a leper, which the Septuagint render *αλφει*.

Others have invented other reasons of the appellation, which do more honour to Moses. Nicolai conjectures that he might have been denominated Alpha, on account of the fairness and brightness of his complexion, when he came from the mount ; or from his being the chief, or leader of the jewish people ; or even from his being well learned, in regard the Hebrew word *Aleph*, from whence the Greek alpha was formed, signified as much. If none of these will serve, the same author, from the consideration of the radical letters of the word alpha, deduces divers other mystical significations : Moses might have been so called, because he was the most meek of men ; or in regard he mediated between God and the Jews ; or because he was flow of speech ; or because he conversed familiarly with God ; or, in fine, because he wrote a history of the times before him.

ALPHABET, in matters of literature, the natural or accustomed series of the several letters of a language.

As alphabets were not contrived with design, or according to the just rules of analogy and reason, but have been successively framed, and altered, as occasion required, it is not surprizing that many grievous complaints have been heard of their deficiencies, and divers attempts made to establish new and more adequate ones in their place.

All the alphabets extant are charged by bishop Wilkins with great irregularities, with respect both to order, number, power, figure, &c.

As to the order, it appears (says he) inartificial, precarious, and confused, as the vowels and consonants are not reduced into classes, with such order of precedence and subsequence as their natures will bear. Of this imperfection the greek alphabet, which is one of the least defective, is far from being free : for instance, the Greeks should have separated the consonants from the vowels ; after the vowels they should have placed the diphthongs, and then the consonants ; whereas in fact, the order is so perverted that we find the *ομιγρον* the fifteenth letter, in order of the alphabet, and the *ομεισα*, or long o, the twenty-fourth and last, the ε the fifth, and the ι the seventh.

With respect to number, they are both redundant and deficient ; redundant, by allotting the same sound to several letters, as in the latin *c* and *k*, *f* and *ph* ; or by reckoning double letters among the simple elements of speech, as in the greek ξ and ψ, the latin *q* or *cu*, *x* or *ex*, and the *j* consonant ; deficient in many respects, particularly with regard to vowels, of which seven or eight kinds are commonly used, though the latin alphabet takes notice only of five. Add to this, that the difference among them, with regard to long and short, is not sufficiently provided against.

The powers again, are not more exempt from confusion ; the vowels, for instance, are generally acknowledged to have each of them several different sounds ; and among the consonants we need only bring as evidence of their different pronunciation, the letter *c* in the word *circa*, and *g* in the word *negligence*. Hence it happens, that some words are differently written, though pronounced in the same manner, as *cesso* and *sessio* ; and others are different in pronunciation, which are the same in writing, as *give*, *dare*, and *give*, *vinculum*.

Finally, the figures are but ill-concerted, there

there being nothing in the characters of the vowels answerable to the different degrees of apertion ; nor in the consonants analogous to their agreements or disagreements.

Alphabets of different nations vary in the number of their constituent letters. The english alphabet contains twenty-four letters, to which if *j* and *v* consonant are added, the sum will be twenty-six ; the french, twenty-three ; the hebrew, chaldee, syriac, and samaritan, twenty-two each ; the arabic, twenty-eight ; the persian, thirty-one ; the turkish, thirty-three ; the georgian, thirty-six ; the coptic, thirty-two ; the muscovite, forty-three ; the greek, twenty-four ; the latin, twenty-two ; the slavonic, twenty-seven ; the dutch, twenty-six ; the spanish, twenty-seven ; the italian, twenty ; the ethiopic, as well as tartarian, two hundred and two ; the indians of Bengal, twenty-one ; the baramos, nineteen ; the chinese, properly speaking, have no alphabet, except we call their whole language their alphabet : their letters are words or rather hieroglyphics, and amount to about 80,000.

If alphabets had been constructed by able persons, after a full examination of the subject, they would not have been filled with such contradictions between the manner of writing and reading, as we have shewn above, nor with these imperfections that evidently appear in the alphabets of every nation. Mr. Lodowic, however, and bishop Wilkins, have endeavoured to obviate all these, in their universal alphabets or characters. See the article CHARACTER.

ALPHABET is also used for a cypher, or table of the usual letters of the alphabet, with the corresponding secret characters, and other blank symbols intended to render the writing more difficult to be decyphered. See the article DECYPHERING.

ALPHABET, among merchants, a kind of index, with the twenty-four letters, in their natural order, in which are set down the names of those who have open accounts, referring to the folios of the ledger.

ALPHABETICAL, something belonging to, or partaking of, the nature of an alphabet. Thus we say, alphabetical order, method, &c.

ALPHETA, in astronomy, the same with lucida coronæ. See the article LUCIDA.

ALPHONSIN, in surgery, an instrument

for extracting bullets out of gun-shot wounds.

This instrument derives its name from the inventor Alphonfus Ferrier, a physician of Naples. It consists of three branches, which are closed by a ring. When closed and introduced into the wound, the operator draws back the ring towards the handle, upon which the branches opening take hold of the ball ; and then the ring is pushed from the hant, by which means the branches grasp the ball so firmly as to extract it from the wound. See the article GUN-SHOT WOUNDS.

ALPHONSINE TABLES, astronomical tables calculated by order of Alphonfus, king of Castile, in the construction of which that prince is supposed to have contributed his own labour. See TABLE.

ALPHOS, αλφός, among physicians, a disease of the skin, otherwise called *leuca* & *vitiligo* ; wherein it is rough, and sprinkled as it were with white spots : for when these are black, the distemper is called melane.

ALPINIA, in botany, a genus of the monandria-monogynia class of plants, the corolla whereof is monopetalous, unequal, and as it were double ; the exterior one is trisid, the upper segment is hollow, the two side ones flat, and it has a tube ; the interior is short, its edge is trisid, and the lower segment of the three hangs out beyond the lateral parts of the exterior corolla, the other two are emarginated, and the base is ventricose ; the fruit is a fleshy capsule, of an ovated figure, composed of three valves, and containing three cells ; the seeds are numerous, of an ovated figure, with a prominent but truncated apex, and a caudated base.

ALPS, a chain of exceeding high mountains, separating Italy from France and Germany.

Alps is sometimes also used in a more general sense, for any mountains of extraordinary height.

ALRAMECH, in astronomy, the name of a star of the first magnitude, otherwise called arcturus. See ARCTURUS.

ALSACE, a province formerly belonging to Germany, but almost intirely ceded to France by the peace of Munster, is situated between the river Rhine on the east, and Lorrain on the west, Switzerland on the south, and the palatinæ of the Rhine on the north.

ALSEN, an island in the lesser Belt, at the

entrance of the Baltic sea, between Sleswic and Funen, E. longitude 10°. N. latitude 52° 12'.

ALSFIELD, or **ASFIELD**, a town of Hesse Cassel, in Germany, E. longitude 9°. N. latitude 50° 40'.

ALSINE, **CHICKWEED**, in botany, the name by which Tournefort calls the stellaria of Linnæus, the flower of which is rosaceous; consisting of several petals disposed in a circular form, and sometimes whole, sometimes bifid at the ends. The fruit is a membranaceous capsule, of a roundish or conic shape, and containing a number of seeds affixed to a placenta. See plate XIV. fig. 1. and **STELLARIA**. The alsinæ are reputed cooling, and therefore good in fervours of the blood, and consumptions arising from hæstical disorders.

ASINE, in the Linnæan system of botany, a genus of the pentandria trigynia class of plants, the calyx of which is a perianthium, consisting of five concave oblong and acuminate leaves; the corolla consists of five equal petals, longer than the cup; the fruit is an oval covered capsule, containing only one cell: the seeds are numerous and roundish.

ALSINELLA, in botany, the name by which Dillenius calls the plant sagina. See the article **SAGINA**.

ALSIRAT, in the mahometan theology, denotes a bridge laid over the middle of hell, the passage or path whereof is sharper than the edge of a sword; over which, however, every body must pass at the day of judgment, when the wicked will tumble headlong into hell, whereas the good will fly over it like the wind.

ALT, in music, a term applied to the high notes in the scale. See **SCALE**.

ALTAR, *altare*, or *ara*, a place upon which sacrifices were antiently offered to some deity.

The heathens at first made their altars only of turf; in following times they were made of stone, of marble, of wood, and even of horn, as that of Apollo in Delos. Altars differed in figure as well as in materials. Some were round, others square, and others oval. All of them were turned towards the east, and stood lower than the statues of the gods, and were generally adorned with sculpture, inscriptions, and the leaves and flowers of the particular tree consecrated to the deity. Thus, the altars of Jupiter were decked with oak, those of Apollo with

laurel, those of Venus with myrtle, and those of Minerva with olive.

The height of altars also differed according to the different gods to whom they sacrificed. Those of the celestial gods were raised to a great height above the ground; those appointed for the terrestrial were almost on a level with the surface of the earth; and, on the contrary, they dug a hole for the altars of the infernal gods. According to Servius, the first were called *altaria*, the second *arae*, and the last *cubiculi*; but this distinction is not every where observed, for we find in the best authors, the word *ara*, as a general word, including the altars of celestial, infernal, and terrestrial gods.

Before temples were in use, altars were erected sometimes in groves, sometimes in the highways, and sometimes on the tops of mountains; and it was a custom to engrave upon them the name, proper ensign, or character of the deity to whom they were consecrated. Thus, St. Paul observed an altar at Athens, with an inscription *To the unknown God*.

In the great temples of antient Rome, there were ordinarily three altars; the first was placed in the sanctuary, at the foot of the statue of the divinity, upon which incense was burnt, and libations offered: the second was before the gate of the temple, and upon it they sacrificed the victims: and the third was a portable altar, upon which were placed the offerings and the sacred vessels.

Besides these uses of the altars, the antients swore upon them, and swore by them in making alliances, confirming treaties of peace, and on other solemn occasions. Altars also served as a place of refuge and sanctuary to all those who fled to them, whatever crime they had committed.

Among the Jews, altars in the patriarchal times were very rude. The altar which Jacob set up at Bethel was nothing but a stone, which served him instead of a bolster; that of Gideon, a stone before his house; and the first which God commanded Moses to erect to him, was probably of earth or unpolished stones without any iron; for if any use was made of that metal, the altar was declared impure. The principal altars of the Jews were those of *incense*, of *burnt-offering*, and the *altar*, or *table*, for the *show-bread*. The altar of incense was a small table of shittim wood, covered with plates of gold,

Fig. 1. ALSINE.



Fig. 2. AIXSSOIDES.



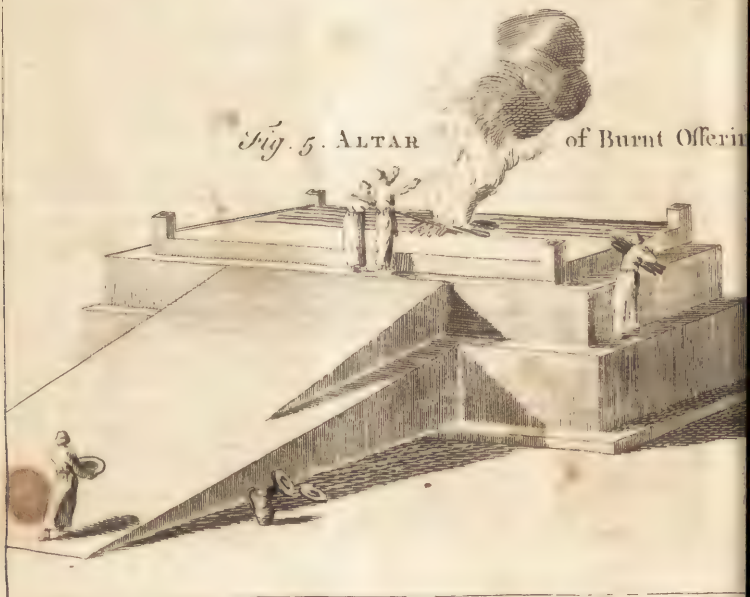
Fig. 3. AIXSSON.



Fig. 4. ALTAR of Incen



Fig. 5. ALTAR of Burnt Offerin



of one cubit in length, another in width, and two in height. At the four corners were four kinds of horns, and all round a little border or crown over it. This was the altar hidden by Jeremiah before the captivity, and upon it the officiating priest offered, every morning and evening, incense of a particular composition. See plate XIV. fig. 4.

The altar of burnt-offerings was made of shittim wood, and carried upon the shoulders of the priests by staves of the same wood, overlaid with brass. In the time of Moses, this altar was five cubits square and three high, but in Solomon's temple it was much larger, being twenty cubits square and ten in height. It was covered with brass, and at each corner was a horn or spire wrought out of the same wood with the altar, to which the sacrifices were tied. Within the hollow was a grate of brass, on which the fire was made; through it fell the ashes, and were received in a pan below. At the four corners of the grate were four rings and four chains, which kept it up at the horns. This altar was placed in the open air, that the smoke of the burnt-offerings might not sully the inside of the tabernacle. See plate XIV. fig. 5.

The altar or table for the shew-bread, was likewise of shittim wood, covered with plates of gold, having a little border round it, adorned with sculpture. It was two cubits long, one wide, and one and an half in height. Upon this table, which stood in the holy of holies, were put every sabbath-day, twelve loaves, with salt and incense. See the article SHEW-BREAD.

The jewisn altars, after the return from the captivity, and the building of the second temple, were in some respects different from those described above.

That of burnt-offerings, was a large pile, built of unhewn stones, thirty-two cubits square at the bottom, and twenty-four square at the top. The ascent was by a gentle rising thirty-two cubits in length, and sixteen in breadth.

ALTAR is also used, among christians, for the communion-table. See the article COMMUNION-TABLE.

The denomination altar, is undoubtedly founded on the notion of the eucharist's being a proper sacrifice. See the article EUCHARIST.

In the greek church there is a preparatory kind of altar, called *altar of prothesis*; whereon the bread is blessed, before it is carried to the large altar.

ALTAR is sometimes also used to denote the offerings made at the altar, in contradistinction from the settled revenues of a church, called simply *ecclesia*.

ALTAR, ara, in astronomy. See **ARA**.

ALTAR-THANE, in our old law-books, an appellation given to the priest, or parson of a parish, to whom the altarage belonged. See the article ALTARAGE.

ALTARAGE, among ecclesiastical writers, denotes the profits arising to a priest on account of the altar, as well as the offerings themselves made upon it.

ALTARIST, altarisfa, the same with altar-thane. See **ALTAR-THANE**.

ALTEA, a sea-port town of Spain, situated upon the Mediterranean-sea, in the province of Valencia, about forty-five miles south of the city Valencia. W. lon. 15°. N. lat. 38°. 40'.

ALTEMBURG, a town of Transilvania, subject to the house of Austria, situated in 23° east longit. and 46°. 25'. north lat.

ALTENA, a port-town of Holstein, in Germany, situated on the river Elbe. It belongs to the Danes, and is the place where all their east-india goods are sold.

ALTENBURG, a town of Misnia, in upper Saxony, about twenty-five miles south of Leipsic, and subject to the duke of Saxe-altenburg. E. longit. 12°. 40'. N. lat. 50°. 50'.

ALTENBURG-OWAR, a fortified town of lower Hungary, situated on the river Danube, and subject to the house of Austria. E. lon. 17°. 20'. N. lat. 48°. 15'.

ALTERANTS, or ALTERNATIVE medicines, in pharmacy, &c. an appellation given to all such medicines as correct the bad qualities of the blood and other animal fluids, without occasioning any sensible evacuation.

Alterants, in this sense, make one of the capital species, or divisions of medicines. They stand opposed to evacuants; and are also contradistinguished from strengtheners, &c.

We meet with medicines of the purgative kind, represented by practical writers as alterants; the colocynth particularly by Helmont: for all medicines which operate in the farthest passages, they frequently include under that appellation. Accordingly it is found of service to give such medicines as are properly cathartic, by way of alteratives, in stubborn, chronic cases; thus, *tinctura sacra*, for instance, given in the quantity of half a spoonful for a dose, has no immediate

effect upon the intestines, so as to discharge their contents, but passes into the further stages of circulation.

Dr. Woodward enquires into the efficacy of several of the most celebrated alterants, and endeavours to shew on what little foundation their great use is established. Of this number, according to him, are the absorbents, cortex peruvianus, bitters, salts, steel and its preparations, mineral waters, &c.

The more efficacious and useful alterants, according to the same writer, are cordials, stomachics, attenuants, mercurius dulcis, vegetable oils, mucilages, certain absorbents, and some preparations of opium.

According to this learned physician, all that is commonly alledged concerning the change of the principles, or ferments of diseases, by alterant remedies, is merely chimerical and imaginary; that there is no change made to the advantage of the human body, without a successive renovation, and discharge of what is hurtful, and a supply of its place by something innocent.

The primitive or constituent elements of bodies never change their figure, magnitude, solidity, or gravity, but remain still the same as at the creation. Hence some infer, 1. The vanity of all pretences to the transmutation of metals. And, 2. The folly of pretending to change the mass of blood, by those remedies called alterants.

The mixtures and combinations of the primitive elements are almost infinite, and their alterations as to sense and external appearance is so too. It may be added, that among alterant medicines, there are several which change the scene of the symptoms; others suspend the action of the morbid matter for a time; and others diminish the sensibility of the organs. But these remedies, which hold the morbid principles captive for a time, are only palliatives, and even on some accounts, dangerous, since they may as well captivate other principles necessary to life. Woodward gives the preference to evacnants, as being the only medicines capable of freeing the machine from what incommodes it.

Some take a contrary course, and ascribe even the salutary effects of evacnants to their alterative nature. This has been alledged of mercury in the venereal disease; the like is urged concerning minoratives, which some maintain do not work a cure

by evacuation, so much as by alteration. The like is alledged of ipecacuanha in the cure of the dysenteries, and of divers other emetics, in cases of apoplexies. In effect, evacuating medicines, as they do not separate the good from the bad, seem indifferently disposed, either to do harm or good.

Alterants operate chiefly by sweetening what is too sour and acid, cooling what is over hot, and the like. Hence the division of them into absorbents, calmers, attenuants, emollients, and demulcents. See the articles ABSORBENTS, &c.

ALTERATE or ALTERAL, in music and geometry. See the article SESQUI.

ALTERATION, *alteratio*, in a general sense, denotes some variation in the qualities or circumstances of a thing, without wholly changing its nature. Thus, a piece of cloth is altered by being dyed a different colour; so is a piece of wood, by being fashioned into a different shape; and so in other cases.

ALTERATION, in medicine, is particularly used to denote the action of alterant medicines. See the article ALTERANTS. Alteration, in a still more limited sense, is used for the change which food undergoes before it becomes proper nourishment to the body; in which sense it comprehends digestion and assimilation. See DIGESTION and ASSIMILATION.

ALTERATIVE MEDICINES, the same with alterants. See ALTERANTS.

ALTERCATION, a debate between two companions. Thus, we say, they have continually some altercation, though they never come to an open rupture.

ALTERN-BASE, in trigonometry, a term used in contradistinction to the true base. Thus, in oblique triangles, the true base is either the sum of the sides, and then the difference of the sides is called the altern base; or the true base is the difference of the sides, and then the sum of the sides is called the altern base.

ALTERNATE, in a general sense, a term applied to such persons or things as succeed each other by turns. Thus, two who command each his day, are said to have an alternate command, or to command alternately.

ALTERNATE, in heraldry, is said in respect of the situation of the quarters.

Thus the first and fourth quarters, and the second and third, are usually of the same nature, and are called alternate quarters.

ALTERNATE, in botany, such a disposition

tion of the leaves of a plant, that the first on one side of a branch stands higher than the first on the other side, the second the same, and so on to the top.

ALTERNATE ALLIGATION in arithmetic. See the article **ALLIGATION**.

ALTERNATE ANGLES, in geometry. See the article **ANGLE**.

ALTERNATE PROPORTION. See the article **PROPORTION**.

ALTERNATION properly signifies a succession by turns. See **ALTERNATE**.

ALTERNATION is also used for the different ways which any number of quantities may be changed, or combined. See the article **COMBINATION**.

ALTERNATIVE, in a general sense, denotes much the same with alternate. See the article **ALTERNATE**.

ALTERNATIVE PROMISE, that whereby two or more persons are bound, conjunctly and severally, to perform something; which being done by any one of them, all the rest are acquitted.

ALTERNATIVE PROPOSITIONS, the same with those more usually called disjunctive ones. See the article **DISJUNCTIVE PROPOSITION**.

ALTHÆA, MARSH-MALLOW, in botany, a genus of plants, with a double calyx, the exterior one being divided into nine segments; the fruit consists of numerous capsules, each containing a single seed. It belongs to the monadelphia polyandria class of Linnæus.

Its flowers and fruit are nearly the same with those of the *malva*, or mallow. See the article **MALVA**.

Althæa is much used as an emollient. The root and leaves are of great use against sharp corroding humours in the stomach; also balsamic and pectoral, and are often ordered in clysters for the stone, and in cataplasms and fomentations against swellings.

ALTIMETRY, *altimetria*, denotes the art of measuring altitudes or heights. See the articles **ALTITUDE** and **HEIGHT**.

ALTIN, a kingdom of Asia, in great Tartary, between the sources of the Irtych and the Ob. It is bounded on the north by the Kirgites, on the east by the Amaduners, on the south by the kingdom of Eluth, and on the west by the Irtych, which separates it from Barabinskoi.

ALTIN is also the capital of the kingdom of that name, situated in the northern part of the kingdom, at the head of the river Kilam,

ALTIN, in commerce, a kind of money current in Muscovy, worth three copics.

ALTINCAR, among metallurgists, a kind of flux-powder, used in the fusion and purification of metals.

ALTITUDE, *altitude*, in geometry, one of the three dimensions of body; being the same with what is otherwise called height. See the article **HEIGHT**.

Altitude of a figure, is the distance of its vertex from its base, or the length of a perpendicular let fall from the vertex to the base. See the articles **FIGURE**, **PERPENDICULAR**, &c.

ALTITUDE, in optics, is the height of an object above a line, drawn parallel to the horizon from the eye of the observer.

ALTITUDE of the eye, in perspective, is its perpendicular height above the geometrical plane.

ALTITUDE of a star, &c. in astronomy, is an arch of a vertical circle, intercepted between the stars and the horizon.

This altitude is either true or apparent, according as it is reckoned from the rational or sensible horizon, and the difference between these is what is called by astronomers the parallax of altitude. See the article **PARALLAX**.

Near the horizon, this altitude is always increased by means of refraction. See the article **REFRACTION**.

Sailors commonly take the altitudes of stars with a quadrant, but as this method is liable to an error of six, seven, or more minutes, by reason of the motion of the ship, as well as the coarseness of their instruments, Mr. Parent has given a new way of finding their altitudes, by means of a common watch. His method is this: having observed the difference of time between the rising of two stars, the right ascension and declination of which are known from astronomical tables, it will be easy to distinguish that part of the difference which arises from their different position from that arising from the obliquity of the sphere. Now this last is precisely the altitude of the pole of the place of observation; for as to the way the ship may have made between the rising of the two stars, it is so small as to be safely overlooked, or at most estimated in the common way of reckoning.

As to the methods of taking the meridian altitude of the sun, or of a star, by means of a gnomon, or quadrant. See the articles **GNOMON**, and **QUADRANT**.

ALTITUDE

ALTITUDE of motion, according to Dr. Wallis, is its measure estimated in the line of direction of the moving force.

ALTITUDE, in astrology, is the same with what is otherwise called exaltation. See the article **EXALTATION**.

ALTITUDE of fluids is more usually expressed by the term depth. See **DEPTH**.

Determinative ALTITUDE, that from whence a heavy body falling, acquires a certain velocity by its natural acceleration.

ALTITUDE of the equator. See **EQUATOR**.

ALTITUDE of the nonagesimal. See the article **NONAGESIMAL**.

Circles of ALTITUDES. See **CIRCLE**.

Parallels of ALTITUDE. See **PARALLEL**.

ALTKIRK, a town of Alsace in Germany, situated on the river Ill, in N. lat. $47^{\circ} 40'$ and E. lon. $7^{\circ} 15'$.

ALTMORE, a town of Ireland, in the county of Tyrone, and province of Ulster, situated in N. latit. $54^{\circ} 34'$ and W. longit. $7^{\circ} 8'$.

ALTMUL, a river of Germany, which arising in Franconia, runs south-east by the city of Anspach; and continuing its course east by Papenheim and Aichstet, falls into the Danube at Kelheim, about twelve miles above Ratibon.

ALTO and BASSO, in law, denotes the absolute submission of all differences high and low to some arbitrator.

ALTO-RELIEVO. See **RELIEVO**.

ALTO RIPIENO, in music, the tenor of the great chorus which sings or plays only now and then in some particular places.

ALTORF, a town of Germany, in the circle of Swabia, situated in N. latitude $47^{\circ} 46'$ and E. longitude $9^{\circ} 35'$.

ALTORF is likewise the name of a town in the circle of Franconia, situated in N. latitude $49^{\circ} 26'$ and E. longitude $11^{\circ} 20'$.

ALTORF is also the capital of the canton of Uri, in Switzerland, situated on the lake Lucern, in N. latitude $46^{\circ} 50'$ and E. longitude $8^{\circ} 30'$.

ALTZHEIM, or **ALTZEY**, a town of Germany, situated in N. latit. $49^{\circ} 45'$ and E. long. $7^{\circ} 52'$ about forty-two miles north-west of Heidelberg.

ALVA DE TORMES, a town of Spain, in the Province of Leon, situated on the river Tormes, in N. latit. 41° and W. long. 6° about sixteen miles south-east of Salamanca.

ALUDELS, in chemistry, are earthen pots ranged one above another, for retaining the flowers which ascend in the process of sublimation. See the article **SUBLIMATION**.

The lowest aludel is fitted to a pot, placed in the furnace, wherein is the matter to be sublimed; and at top is a close head, to retain the flowers which ascend highest.

ALVEARIUM properly signifies a beehive, from *alveus*, a channel, or cavity. Hence,

ALVEARIUM, among anatomists, denotes the hollow of the auricle, or outer ear. See the article **EAR**.

ALVEOLUS, in natural history, properly denotes one of those waxen cells, whereof the combs in bee-hives consist. These *aveoli*, or cells, serve for different purposes. As store-houses, they preserve honey and wax for future use; and as niduses, they serve to defend the embryos while hatching. See the article **BEE**. Naturalists and mathematicians have bestowed no little pains in examining the structure of these cells; the form of which appears to be the most commodious that it is almost possible for art to invent, as requiring the least wax to contain the same quantity of honey. The body of the cell is hexagonal, or consists of six sides; and the bases are of a pyramidal figure, composed of three rhombuses, the oblique angles of which have been found by mensuration to be nearly 110° , varying only about half a degree from what, by the strictest rules of geometry, they ought to be, viz. $109^{\circ} 28' 16'$.

As to the disposition and arrangement of these cells in combs. See **HONEY-COMB**.

ALVEOLUS, in anatomy, the socket-like cavity in the jaws, wherein each of the teeth is fixed.

ALVEOLUS, in botany, a name given to the cells in which the seeds of certain plants, as the *dipfucus* and *corona solis*, are ranged.

ALVEOLUS, in the history of fossils, a marine body, not known at present in its recent state, but frequently found fossil. The alveoli are of a conic shape, and composed of a number of cells, like so many bee-hives, jointed into one another, with a siphunculus, or pipe of communication, like that of the nautilus. They are sometimes met with entire, but more frequently truncated, or with their smaller ends broken off.

ALVEUS, properly signifies a channel; and hence is used by some anatomists for the tumid lacteal vessels, proceeding from the receptaculum chyli.

ALVEUS is also used in roman antiquity, for

for a kind of boat, fashioned out of the trunk of a single tree : such was that in which Romulus and Remus were exposed.

ALUM, *alumen*, in natural-history a peculiar kind of salt, separated by art from various substances. In Italy, it is obtained from a soft reddish stone; about Puteoli, from several kinds of earth; and in England, from a whitish or bluish stone, called irish slate.

In some parts of the world, alum is found pure; having been washed from its ore by water, and afterwards, on the evaporation of the water, left in a dry form. Alum bears a near affinity to vitriol, in respect of the saline principle, *i. e.* the acid spirit, which is the same in both. It differs from vitriol, as this latter is found to have a metalline basis, *e. gr.* iron or copper; whereas the basis or matter of alum, wherewith the saline part is united, is an alcalious or chalky earth, or stone, resembling lime-stone, as appears from the origin and preparation of alum, and from the stony sediment it deposits by solution. See the article **VITRIOL**.

Alum also bears a near conformity with sulphur, as both are formed from the same saline spirit; which, if it meet with a stony substance, forms alum, with a bituminous one, sulphur. See the article **SULPHUR**.

Alum then is formed of the universal acid, or fluid salt combining with a chalky earth.—The same acid, with a mercurial earth forms common sea salt, and with a moist, rocky, or clay earth, sal gemmæ. This system is confirmed, by what naturalists have observed concerning the origin of the native alum in the isle of Chio. That island is a hollow spongy rock, penetrated on all parts by the sea-water. M. Tournefort considers the whole as a natural laboratory, wherein the sea-water undergoes much the same action in it as in our retorts. By this means, an acid spirit is separated from it, which penetrating the substance of the rocks, dissolves and incorporates with them, and forms mines of alum. This seems hardly to be doubted, inasmuch as by pouring spirit of salt on common stones, or chalk, aluminous concretions are readily formed. The same spirit mixing with a bitumen under-ground, forms sulphur. Some attribute the origin of alum chiefly to a sulphureous principle acting on, corroding of, and coagulating with a mineral substance, usually of a terrene and stony, rather than metallic nature, tho' that me-

tal be often contained in the alum stone. That the sulphur is the chief efficient and material cause of this production, seems to appear hence, that many alum stones distilled *per descensum*, yield good brimstone, and all alum stones during calcination, emit a sulphureous steam. An inquisitive naturalist gathered from the very same rock, and that within a few inches of each other, both vitriol, alum, and sulphur, all of them excellent in their kind. Indeed those three minerals are so nearly allied, that an ingenious chemist assures us, he can, by some artifices, convert alum into vitriol, or vitriol into alum, the same to all intents and purposes, with the natural.

Alum is ranked by Homberg, and others, as an urinous neutral salt, on account of the urinous smell it exhales by burning, and its use in the volatilization of fixed salts. Yet some deny alum to belong to the class of salts, and rank it rather among stony substances; by reason that after dissolving alum, and precipitating the solution with oil of tartar *per deliquium*, the coagulation at the bottom, resembles a stony calx, and being exposed to the fire will neither melt nor sublime. The ore of alum, if mature, yields its salt immediately, and without trouble; but if less mature, it requires a previous calcination, as is the case in many of our English alum stones; and if very crude or immature, it must not only be burnt, but a long time exposed to the air before it will yield its salt. From this it appears, that the alum is not a genuine and native salt, but is composed by the acid of sulphur, corroding some peculiar earth or stone, as vitriol is by its corroding some metal; and that, in both these operations, this corroding acid can sometimes perform its business, while it lies in the bowels of the earth; and sometimes while it lies in the open air, tho' it failed of it while buried. Alum distilled into an acid spirit, with copper, or iron, becomes good vitriol; and vitriol freed from its metallic parts becomes aluminous; and, being distilled, yields a spirit not to be distinguished by the taste from that of alum, and even scarce by the most accurate scrutiny. Rectified oil of vitriol, or spirit of sulphur, of the same degree of strength, will sometimes concrete into a solid and transparent substance, resembling crystallized alum; and this substance is nowise different whether prepared by one or the other of these ways, and in both resembles

bles the purest alum, so as not to be distinguishable from it unless by tasting it. Alum ores generally contain vitriol as well as alum, and are capable of great fermentation, when exposed to the air, tho' they would never have been subject to it while buried in the earth. They will become so hot in the heap, that it is scarce possible to endure the hand upon them; and sometimes will break out into absolute flame. The acid and the sulphur they contain are the occasion of this, as, according to Sympson, and some others, they are of all subterranean fermentations and heats; and the whole is not badly explained, by the familiar instance of adding water to rectified oil of vitriol. The acid and the sulphur of that fluid are, as in these ores, so combined as not to exert their forces naturally against one another, but all is quiet as in these stones while under-ground, but the water does to the one, what the air does to the other; sends in a third, which not agreeing with either of the other, disturbs and sets their particles in motion, and the vessel containing the liquid becomes as hot to the touch in the one case, as the solids themselves are in the other.

Process of making ALUM. At Whitby, in Yorkshire, alum is made thus: having burnt a quantity of the ore with whins, or wood, till it becomes white; they then barrow it in a pit, where it is steeped in water for eight or ten hours. This liquor, or *lixivium*, is conveyed by troughs to the alum-house into cisterns, and from them into the pans, where it is boiled about twenty-four hours. Then add a certain quantity of the lee of kelp; the whole is drawn off into a settler; where having remained about an hour, that the sulphur and other dregs may have time to settle to the bottom, it is conveyed into coolers. This done, to every tun of the liquor they add about eight gallons of urine; and having stood four days and nights, till quite cool, the alum begins to crystalize on the sides of the vessel, from which being scraped off, it is washed with fair water, and then thrown in a bing, to let the water drain off. After this it is thrown into a pan, called the roching pan, and there melted; in which state it is conveyed by troughs into tuns, where it stands about ten days, till perfectly condensed. Then staving the tuns, the alum is taken out, chipped, and carried to the store-houses.

This is what we commonly call *roche* or rock alum, as being prepared from stones cut from the rocks of the quarry; and stands contradistinguished from the common alum, or that prepared from earths. The method of making alum in Italy is somewhat different from the former.

Mr. Geoffroy had an exact information, in Italy, of the method of making *roche-alum* at Civita Vecchia. Near that city are quarries of a greyish or reddish stone, pretty hard, like the *travertin*. They calcine these stones in kilns, and then boil the calx in water over a strong fire. The water dissolves all the salt contained in the calx, and there remains an insipid earth. The water, thus impregnated, is left to cool, and the salt shoots into crystals, like tartar, about the sides and bottom of the cask, which is the *roche-alum*.

Properties and uses of ALUM. In medicine alum is a very valuable and powerful astringent: the old authors are full of its praises in stopping hæmorrhages of all kinds, in fastening the teeth, and in strengthening the gums; on this account it was an ingredient in all their dentifrices, and obtains a place in most of ours to this day. Alum, mixed with honey, cures the aphthæ; and with the juice of knot-grass, is good for exanthemata and rheums in the ears; with cabbage-leaves and boiled honey, it is effectual in the leprosy; and very good in warm water to make a fomentation for the itch, paronychia, pterygia, and kibes; to scour away all nits and lice, and to anoint scalds or burns.

Alum, in colouring and dying, not only serves to bind the colour upon the stuffs, and has the same use there that gum-water and glutinous oils have in painting, but likewise disposes stuffs to take colour, and adds a briskness and elegance to them. It also preserves paper that has been dyed in its water, from sinking when wrote upon; and is therefore extremely proper for washing prints designed to be coloured, for it will not only fix the paper so that the colours will not run, but will also help to brighten them. In whatever form alum is found, whether naturally pure, in rough ore, or purified by art, when dissolved and made into a pure salt, it exhibits the same marks and characters: it will not run *per deliquium*, or melt to a fluid in a moist air. It requires fifteen times its own weight of water to dissolve it perfectly; and when a

proper quantity of that is evaporated, it forms octogonal crystals, of a sweet, astringent and very styptic taste.

A solution of alum coagulates milk, turns the tincture of heliotropium purple, makes no alteration in the solution of corrosive sublimate, turns the infusion of galls turbid and whitish; with salt of tartar it concretes into a white coagulum, without any sensible heat or smoke; and often upon mixing this solution with oil of tartar, an urinous smell is perceived; but this only happens when the alum has been purified with urine. There is no such smell from the roman alum.

Artificial ALUM, that prepared by art, in contradistinction from the native alum.

Artificial alum is also used for alum produced by causing burnt earthen vessels imbibe a large quantity of oil of vitriol; the effect of which is, that they are thereby reduced to a mucilage, which being exposed to the open air, affords crystals of pure alum. Tobacco-pipes, wetted with spirit of sulphur, likewise afford beautiful crystals of plumose alum. See the article *Plumose ALUM, infra*.

Burnt ALUM is that melted in a fire-shovel, or crucible, where it is allowed to bubble till it becomes a white hard substance.

The watry part of the alum being thus expelled, the remainder is left possessed of all its acids, less clogged, and more in a condition to exert its effects. It proves a gentle escharotic, and is used in small quantities, mixed with other ingredients, in tooth-powders.

Native ALUM, or *Fossile ALUM*, that formed by nature, without the assistance of art. There are still mines of native alum in the island of Chio, consisting of a kind of vaults, or apartments, crusted over with alum, which may be looked upon as exfoliations from the rock.

Plumose ALUM, or *Plumie ALUM*, a kind of natural alum, composed of a sort of threads, or fibres, resembling feathers; whence it has its name.

Prepared ALUM, or *Purified ALUM*, that which is dissolved in hot rain-water, and afterwards made to crystallize, by evaporating the water.

Roche-ALUM, or *Rock-ALUM*. See the article *Process of making ALUM, supra*.

Roman ALUM, a sort of rock alum, of a reddish colour, made in the country near Rome.

Saccharine ALUM is a composition of common alum with rose-water and the whites of eggs, which being boiled to the con-

sistence of a paste, is formed in the shape of a sugar-loaf; hence it obtained its name: it is used as a cosmetic.

ALUM WATER. See the next article.

ALUMINOUS, an appellation given to such things as partake of the nature and properties of alum. See **ALUM**.

ALUMINOUS WATERS, those impregnated, either naturally or artificially, with the virtues of alum.

Of the former kind is the spaw at Scarborough represented to be; and of the latter, the *aqua aluminosa* of the shops. See the articles **SCARBOROUGH**, and *Aqua aluminosa*.

ALVUS, in anatomy, denotes the lower belly, or *venter*; but Celsus uses it to signify the belly relative to stools. Thus *Alvus liquida* is when the fæces are liquid, and *alvus adstricta* when the belly is bound.

ALYSSOIDES, in botany, a species of alyssum, with cruciform flowers, and elliptical fruit; divided by an intermediate membrane into two cells, which contain a considerable number of orbicular, flat, and marginated seeds. See plate XIV. fig. 2. and the next article.

ALYSSO, or **ALYSSUM**, **MAD-WORT**, in botany, a genus of the tetradynamia filiculosa class of plants; the flower is of the cruciform kind, and consists of four leaves; the fruit is a small roundish capsule, divided into two cells, in which are contained a number of small roundish seeds. See plate XIV. fig. 3.

As to the medicinal virtues of alysson, it is said to be aperitive, and good for the bite of a mad dog; being of a very penetrating and diaphoretic nature, and agreeing in other respects with the scurvy-grass.

ALYTARCHA, a priest of Antioch, in Syria, who, in the games instituted in honour of the gods, presided over the *alvæ*, or officers who carried rods to clear away the crowd, and keep order.

In the olympic games, the alytarches had the same command, and obliged every person to preserve order and decency.

ALZIRA, a town of Spain, in the province of Valencia, situated on the river Xucar, about eighteen miles south of the city of Valencia. W. lon. 20° N. lat. 39° 10'.

AMABYR, or **AMVARYR**, a barbarous custom which formerly prevailed in Wales and some other parts of the kingdom; being a certain fine, or sum of money, paid to the lord, upon marrying a maid within his manor.

AMADABAT, a large, populous, trading city in the East-Indies, the capital of the province of Guzurat, or Cambay, and situated in 72° east longitude, and $23^{\circ} 40'$ north latitude.

AMADANAGER, a town in the higher peninsula of India, situated in $74^{\circ} 15'$ east longitude, and 18° north latitude.

AMADIA, a city of asiatic Turkey, in the province of Curdestan, situated on a high mountain, in 43° east longitude, and 37° north latitude.

AMAIN, or **AMAYNE**, in the sea-language, a term importing to lower something at once. Thus, to strike amain, is to lower, or let fall, the top-sails; to wave amain, is to make a signal, by waving a drawn sword, or the like, as a demand that the enemy strike their top-sails.

The term amain, is also used in lowering a yard, or letting any thing down into the hold, as a word of command to do it gently, and by degrees.

AMAK, or **AMAKA**, an island of Denmark, lying in $13^{\circ} 5'$ east longitude, and $55^{\circ} 29'$ north latitude, and separated by a very narrow channel from Copenhagen.

AMALFA, a city of Italy, in the kingdom of Naples, and province of the hither Principato. It is the see of an archbishop, and remarkable for giving birth to Flavius Blendus, inventor of the sea-man's compass. East longitude $15^{\circ} 20'$, north latitude $48^{\circ} 50'$.

AMALGAM, *amalgama*, denotes a mass of mercury united and incorporated with some metal. See **AMALGAMATION**.

Amalgams grow soft with heat, and hard with cold; and the metals amalgamated with mercury, assume a consistence harder or softer, in proportion to the quantity of mercury employed in the amalgam.

Amalgams are used either to render a metal fit to be extended on some works, as in gilding; or else to reduce the metal into a very subtil powder.

Thus gilders, to lay gold on any other body, dissolve it in hot mercury; which done, they apply the solution on the body to be gilt, then setting it over the coals, the mercury evaporates, and leaves the gold adhering to the body like a crust. The amalgams of gold, silver, tin, lead, zinc, bismuth, and copper, are all white; and when the proportion of the quantity of the metal to that of mercury is considerable, they form a kind of paste.

AMALGAMATION, in chemistry, the

operation of making an amalgam, or of mixing quicksilver with some metal, is performed by fusing, or at least igniting the metal, and in this state adding a proportion of mercury to it; upon which they mutually attract and incorporate with each other.

Of all metals, gold unites with mercury with the greatest facility; next to that, silver; then lead, tin, and every metal, except iron and copper, the last of which incorporates with quicksilver with great difficulty, and the former scarce at all.

The amalgam of gold is thus made: take a dram of the regulus of gold, beat it into very thin plates, and upon these, heated in a crucible red hot, pour an ounce of quicksilver; stir the matter with an iron rod, and when it begins to smoke, cast it into an earthen pan filled with water, and it will coagulate and become tractable. Gold will retain about thrice its weight of mercury.

To make an amalgam of lead: melt clean lead in an iron ladle, add to it an equal weight of heated mercury, stir them together with an iron rod, then let them cool, and you will have a uniform mass of a silver colour, somewhat hard, but growing softer and softer by trituration. Put this mass into a glass mortar, grind it, and mix with it any quantity of mercury at pleasure, and it will unite with it, as salt with water.

The amalgam of tin is made exactly in the same manner, and this also may be diluted by the addition of mercury.

To have an amalgam of copper; take a solution of pure copper, made in aqua fortis, so strong that the aqua fortis could dissolve no more of the metal; dilute the solution with twelve times its quantity of fair water; heat the liquor, and put into it polished plates of iron, and the copper will be precipitated in a powder to the bottom, while the iron will be dissolved: proceed thus till all the copper is fallen, pour off the liquor, wash the powder with hot water, till it becomes perfectly insipid; then dry the powder, and grind it in a glass mortar with an equal weight of hot quicksilver, and they will unite into an amalgam, which will also receive a further addition of mercury. An amalgam of copper in any other way is very difficult to make.

Pure silver precipitated from aqua fortis, may in the same manner be made into an amalgam.

From these operations we may perceive, that

that the making of amalgams is the foundation of the art of gilding, both in gold and silver, and that metals by that art may be mixed, confounded, and secretly concealed among one another.

AMANCE, a town of Lorrain, situated in $6^{\circ} 10'$ east longit. and $48^{\circ} 40'$ north latitude, about seven miles north-east of Nancy.

AMAND, or **ST. AMAND**, the name of two towns; one situated in the dutchy of Bourbon, in the province of Lyons, in France; and the other in french Flanders, about six miles north of Valenciennes.

AMANTEA, a sea-port town and bishop's see of the kingdom of Naples, situated near the bay of Euphemia, in the province of Calabria, in $16^{\circ} 20'$ east longitude, and $39^{\circ} 15'$ north latitude.

AMAPALLA, a sea-port town of Mexico, in the province of Guatimala, situated on the Pacific ocean, in 93° west longitude, and $12^{\circ} 30'$ north latitude.

AMARANTA, or **AMARANTE**, an order of knighthood, instituted in 1653, by Christina queen of Sweden, in memory of a masquerade, wherein she had assumed that name, which signifies unfading, or immortal. Her nobility likewise assumed different characters, viz. of gods, goddesses, shepherds, nymphs, &c. and to well pleased was the queen with the diversion, that she instituted this order in memory of it, consisting of sixteen lords and as many ladies, with the motto *dolce nella memoria*.

AMARANTH, *amaranthus*, in botany, the name of a genus of plants, sometimes called prince's feather, the flower of which is rosaceous, and its fruit an oval or roundish capsule, containing only one large seed of a roundish compressed shape. See plate XV. fig. 1.

All the species of this genus, which belongs to the *monoecia-pentandria* class of Linnæus, are drying and astringent; accordingly we find the flowers of the common large garden-kind, dried and powdered, recommended in diarrhoeas, dysenteries, and hæmorrhages of all kinds, as well as for incontinence of urine.

AMARANTHOIDES, in botany, a species of gomphrena, with flosculus flowers collected into a squamose head and a roundish fruit. See plate XV. fig. 2. and the article **GOMPHRENA**.

The flowers of the amaranthoides have got the appellation of everlasting; because, if gathered in full perfection, and

kept in a dry place, they will retain their beauty many years.

AMARYLLIS, in botany, a genus of the *hexandria-monogynia* class of plants, the corolla whereof consists of six lanceolated petals; the fruit is an oval or nearly oval capsule, formed of three valves, and containing three cells; the seeds are numerous; the inflection of the petals, stamina and pistil, in this genus is very different in the various species.

This genus comprehends the lilio-narcissus of Tournefort and Dellenius, and the Guernsey-lily.

AMASIA, the northern division of lesser Asia, lying on the south shore of the Euxine sea.

Amasia is also the name of the capital city of the above province, situated in 36° east longitude and 42° north latitude; about seventy miles south of the Euxine sea.

AMATORII musculi, in anatomy, those muscles of the eyes that draw them sideways, and assist in the look called ogling. The *amatorii musculi* are otherwise called the *obliquus superior*, or *trochlearis*, and the *obliquus inferior*. See the articles **ORLIQUUS** and **TROCHLEARIS**.

AMAUROSIS, *amaurosis*, among physicians, a distemper of the eye, otherwise called *gutta serena*. See **GUTTA serena**.

AMAZON, in a general sense, denotes a bold daring woman, whose breasts have been cut off, to render her more fit for fighting.

AMAZONS, in a more limited sense, were an antient nation of women, inhabiting that part of lesser Asia now called Amasia. See the article **AMASIA**.

The Amazons are said to have killed all their male children, and to have cut off the right breasts of their females, to fit them for martial exercises. The existence, however, of such a nation is controverted by many judicious authors, and defended by others, particularly Mr. Petit, who has published a dissertation on the subject, wherein are several curious inquiries concerning their arms, drels, &c. We also read of scythian Amazons, of german Amazons, of lybian Amazons, and Amazons of America, living on the banks of the great river which bears their name, who are represented as governed by a queen, no men being permitted to live among them; only, at a certain season, those of the neighbouring nations are suffered to visit them, for the sake of procreation. The Amazons of
Q 2 Lybie

Lybia are famous for their wars with another female nation, called Gorgons. See the article GORGONS.

On medals, the bust of the Amazons is ordinarily represented armed with a little battle-ax, called by the Romans *biceps*, or *securis*, which they carried on their shoulder, with a small buckler in form of a half moon, distinguished by the name of *pelta*, upon their left arm.

AMAZON, in geography, a great river of south America, which rising in Peru, near the equator, runs eastward a course of more than three thousand miles; and, like other rivers between the tropics, annually overflows its banks, at which season it is about one hundred and fifty miles broad, where it falls into the Atlantic ocean.

AMAZONIAN, in a general sense, denotes something belonging to the Amazons. See the article AMAZON.

AMAZONIAN, *amazonius*, among ancient physicians, an epithet given to a troch, which is prepared of the seeds of smallage and anise, the tops of wormwood, myrrh, pepper, opium, castor, and cinnamon. It is generally called the Amazon's troch, and is prescribed for pains of the stomach, and bilious vomitings.

AMBAGES, an idle circumlocution, or vain connecting together of words and sayings, remote from the true purpose of the speaker. See CIRCUMLOCUTION.

AMBAMARJAM, or AMBARA, the capital city of Abyssinia, or higher Ethiopia, situated on the side of a lake, out of which the river Nile issues; in 35° east longitude, and 13° south latitude.

AMBARVALIA, in antiquity, a ceremony among the Romans, when, in order to procure from the gods an happy harvest, they conducted the victims thrice round the corn fields in procession, before sacrificing them.

Ambarvalia were either of a private or public nature: the private were performed by the master of a family, and the public by the priests who officiated at the solemnity, called *fratres arvales*.

The prayer preferred on this occasion, the formula of which we have in Cato, de Re Rust. cap. cxlii. was called *carmen ambarvale*.

At these feasts they sacrificed to Ceres a sow, a sheep, and a bull or heifer, whence they take the name of *suovetaurilia*.

The method of celebrating them was, to lead a victim round the fields, while the peasants accompanied it, and one of their

number, crowned with oak, hymned forth the praises of Ceres, in verses composed on purpose.

This festival was celebrated twice a year, at the end of January, according to some, or in April, according to others; and for the second time, in the month of July: but we have nothing certain as to the particular day.

AMBASSADOR, the same with ambassador. See the article EMBASSADOR.

AMBE, among surgeons, an instrument for reducing dislocated bones, consisting of a horizontal lever, moved by a hinge, upon a vertical standard, or foot.

This is the ambe of Hippocrates, which being found inconvenient, new improvements of it have been made. See the article *Luxation of the HUMERUS*.

AMBE, among anatomists, a term used for the superficial jutting out of a bone. See the article BONE.

AMBER, *succinum*, or *electrum*, in natural history, a pellucid and very hard inflammable substance, of one uniform structure, of a bituminous taste, of a very fragrant smell when rubbed, and highly endowed with the property which from it is called electricity.

Origin and nature of AMBER. Naturalists have been extremely in the dark about the origin of amber: some have maintained it an animal substance, others take it for a resinous juice oozing from poplars and firs, frequent on the coasts of Prussia, where it is found in great abundance. But the generality of authors contend for its being a bitumen, which trickling into the sea from some subterraneous sources, and then mixing with the vitriolic salts which abound in those parts, becomes congealed and fixed; the result of which congelation is amber. However, as good amber is found in digging at a great distance from the sea, it is most probable that it is wholly of mineral origin, and is a bitumen, once liquid, of the *naphtha* or *petroleum* kind, hardened into its present state by a mineral acid, of the nature of spirit of sulphur, or oil of vitriol; more especially as these substances abound in the earth, and an artificial mixture of them produce a body very much like native amber, and affording all its principles on a chemical analysis.

The natural colour of amber is a fine pale yellow, but it is often made white, sometimes black, and in both cases is rendered opaque by the admixture of extraneous

neous bodies. Sometimes it is tinged with metalline particles, and remains pellucid; but the most frequent variation from the yellow, is into a dusky brown.

Properties, preparations, and uses of AMBER. Amber is hard, dry, transparent, toughish though brittle substance, of a styptic taste, and, when warm, of a peculiar fragrant tartish smell. It makes no effervescence with acids; and when rubbed so as to heat, it will attract straws, bits of paper, or any other light substance, and even metals in thin pieces, as leaf-brass and the like. It is one of the lightest fossils we know, is soluble in spirit of wine, in the essential oils of plants, and likewise, though with much difficulty, in some of the expressed oils, as that of linseed. On a chemical analysis, it yields at first a subacid water, and afterwards a yellow fetid oil, and a volatile salt; the remainder in the retort being a black, light, and friable matter, resembling in colour the *bitumen judaicum*. The preparations of amber in use are, 1. Salt of amber, *sal succini*. 2. The oil of amber, *oleum succini*. 3. Tincture of amber, *tinctura succini*. The salt and oil of amber are obtained by the same process: the salt is a true acid, and the only one that is obtained in a solid saline form; the oils greatly resemble the native *petrolea* or *naphtha*, the substances from which amber was formed. The salt is diaphoretic, and diuretic; is esteemed in convulsions, head-achs, and all nervous and hysteric complaints. The oil, by rectification, becomes a good antihysteric and emmenagogue, being very subtil and penetrating: externally, it is of use in restoring contracted paralytic limbs. Tincture of amber is procured by digestion in spirit of wine, with a sand-heat; and has all the virtues of amber in the substance.

The mechanical uses of amber are seen in toys, cabinets, utensils, and the better sort of varnishing. In medicine, being reduced to powder, it is given in the *fluor albus*, convulsions, and in all disorders of the nerves.

AMBER, in geography, a river, which, rising in the south-west part of Bavaria, runs north-east by Lansperg and Dachan, and falls into the Iser, a little above Landshut.

AMBERG, a fortified town of Bavaria, situated on the river IIs, about thirty

miles north of Ratibon, in 12° east longitude, and 49° 25' north latitude.

AMBERGREASE, or AMBERGRISE, *ambra grisa*, in natural history, a solid, opaque, and fragrant substance, of a greyish or ash colour, and melting almost like wax.

Nature and origin of AMBERGRISE. The opinions concerning the nature and origin of ambergrise are as various as those relating to amber. Some take it for the excrement of a bird, which being dissolved by the heat of the sun, and washed off the shore by the waves, is swallowed by whales, who return it in the condition we find it. Others suppose it a spongy earth, washed into the sea, where it floats, being lighter than the water. Others imagine it a sort of gum, which exuding from trees, drops into the sea, and congeals into ambergrise. Others contend for its being formed from honey-combs, which fall into the sea from the rocks where the bees had formed their nests. And, lastly, others will have it a sort of bituminous juice, which springs out of the bottom of the sea, as *naphtha* does out of some springs, and there thickens and hardens. But the later writers have referred it to the mineral kingdom, to which, in all probability it belongs, being a frothy and light bitumen exuding out of the earth in a fluid form, and distilling into the sea, where it hardens, and floats on the surface, or is thrown upon the shore. Ambergrise is found on the sea-coasts, particularly those of Africa, from the Cape of Good-hope to the Red-sea, in lumps sometimes very large, in the middle of which we frequently meet with stones, shells and bones.

Properties, preparations, and uses of AMBERGRISE. Ambergrise is a coarse irregular substance, of a lax incoherent texture, remarkably light, so as not to sink in water, of a rugged surface, very soft and fatty, and when most pure and perfect is of a light grey colour, a strong scent, and being pricked with a hot needle yields an odorous sinell. It is neither soluble, nor makes the least effervescence with any acid. It melts very freely over a fire, into a kind of yellow rosin. It is inflammable, and burns with a bright whitish flame; and is soluble in spirit of wine, which, however, does not take up its whole substance, but always leaves a remainder in form of a black bituminous matter. On analysis it yields by distilla-

tion,

tion, first a quantity of insipid phlegm, then an acid spirit with a yellowish oil, and a small portion of an acid salt.

Ambergrise is much used by perfumers, in giving a rich sweet odour in mixture, especially with musk. In medicine it is a very high cordial, of great use in convulsions, with us; and with the eastern nations is in great repute as a provocative to venery, and a prolonger of life. The only preparation of ambergrise in use, is its tincture or essence, which has all the virtues of the ambergrise in substance.

AMBIDEXTER, a person who can use both hands with the same facility, and for the same purposes, that the generality of people do their right hands.

Were it not for education, some think that all mankind would be ambidexters; and, in fact, we frequently find nurses obliged to be at a good deal of pains before they can bring children to forego the use of their left hands. It is the more pity, that any of the gifts of nature should be thus rendered in a great measure useless, as there are many occasions in life which require the equal use of both hands: such are the operations of bleeding in the left arm, left ankle, &c.

AMBIDEXTER, among lawyers, a juror or embracer, who accepts money of both parties, for giving his verdict; an offence for which he is liable to be imprisoned, forever excluded from a jury, and to pay ten times the sum he accepted of. See the article **DECIES TANTUM**.

AMBIEGNÆ OVES, in the heathen sacrifices, an appellation given to such ewes as, having brought forth twins, were sacrificed together with their two lambs, one on each side. We find them mentioned among other sacrifices to Juno.

AMBIENT, a term used for such bodies, especially fluids, as encompass others on all sides: thus, the air is frequently called an ambient fluid, by reason it is diffused round all terrestrial bodies.

AMBIGENAL HYPERBOLA, a name given by sir Isaac Newton to one of the triple hyperbolas of the second order, having one of its infinite legs falling within an angle formed by the asymptotes, and the other falling without. See **HYPERBOLA**.

AMBIGUITY, in rhetoric and grammar, a defect of language, whereby words are rendered ambiguous. See the next article.

AMBIGUOUS, a term applied to a word or expression which may be taken in dif-

ferent senses. See **EQUIVOCAL**.

The responses of the antient oracles were always ambiguous. See **ORACLE**.

AMBILLON, a village of France, in Touraine, where there is a great quarry for mill-stones.

AMBIT, *ambitus*, in geometry, is the same with what is otherwise called the perimeter of a figure. See the article **PERIMETER**.

AMBITUS, in roman antiquity, the act of setting up for some magistracy, or office, and formally going round the city to solicit the interest and votes of the people.

On these occasions it was not only usual to solicit the interest of their friends and others, with whom they were personally acquainted; but the candidates, being attended by persons of an extensive acquaintance, who suggested to them the names of the citizens, and thence called *nomenclatores*, or *interpretes*, made their application to all they met. This method of suing for offices was deemed allowable, and therefore never prohibited by law; but to restrain all undue influence, whether by bribery, or by exhibiting games, shews, and the like, many laws were enacted, and severe fines imposed.

AMBLE, in horsemanship, a peculiar pace by which a horse's two legs of the same side move at the same time.

Many methods have been proposed to bring a young horse to amble: some try it by new ploughed fields; some endeavour to bring him to amble from the gallop; and many use weights: some attempt to procure an amble in hand, ere they mount his back; others, by the help of hind shoes, made on purpose; others, by folding fine soft lists about the gambrels of the horse; and others, by the trammel.

All these methods, however, are attended with great danger to the horse; and the best way is to try with the hand, by a gentle deliberate racking of the horse, by helping him in the weak part of the mouth with a smooth, big, and full snaffle, and correcting him first on one side, then on the other, with the calves of your legs, and sometimes with a spur.

AMBLETEUSE, a small sea-port town of Picardy, in France, situated about five miles north of Boulogne.

AMBLYGON, *amblygonium*, in geometry, denotes an obtuse-angled triangle; or a triangle, one of whose angles consists of more than ninety degrees.

AMBLY-

AMBLYOPY, ἀμβλυopia, among physicians, denotes the same with *gutta serena*.

See the article *GUTTA serena*.

AMBO, or **AMBON**, in ecclesiastical antiquity, a kind of pulpit, or reading-desk, where that part of the divine service called the gradual, was performed. See the article *GRADUAL*.

Besides the gospel, which was read at the top of the ambo, and the epistle, which was read a step lower, they likewise published from this place the acts of the martyrs, the commemoration of departed saints, and the letters of peace and communion, sent by one church to another: here too converts made a public profession of their faith; and bishops, their defence, when accused: treaties also were sometimes concluded, and the coronations of emperors and kings performed in the same place.

AMBOS, a town of Orleanois, in France, situated on the river Loire, about ten miles east of Tours, in 1° east longitude, and $47^{\circ} 25'$ north latitude.

AMBOYNA, an island of the East-Indies, lying between the Molucca islands and those of Banda, in 126° east longitude, and $3^{\circ} 40'$ south latitude.

In this island, which is about seventy miles in circumference, the Dutch have a strong fort, garrisoned by seven or eight hundred men. What makes it the more remarkable, is the cruel usage and expulsion of the english factors by the Dutch, in the reign of king James I.

AMBRESBERRY, a market-town in Wiltshire, about six miles north of Salisbury, and situated in $1^{\circ} 40'$ west longitude, and $51^{\circ} 20'$ north latitude.

AMBROSE, or *St. AMBROSE in the wood*, an order of religious, who use the ambrosian office, and wear an image of that saint engraven on a little plate: in other respects they conform to the rule of the augustins. See the articles *AMBROSIAN OFFICE*, and *AUGUSTINS*.

AMBROSIA, in heathen antiquity, denotes the solid food of the gods, in contradistinction from the drink, which was called nectar. See the article *NECTAR*. It had the appellation ambrosia, as being supposed to render those immortal who fed thereon. However, Lucian makes himself merry at the expence of this divine food, which, according to him, could not have been so excellent as it is represented by the poets, since the gods are said to have left it for the fat and

blood of sacrifices, which they came to suck from the altars like flies.

AMBROSIA is also an appellation given to certain medicines, freed from their grosser parts, and said to be possessed of extraordinary virtues; in which sense it amounts to much the same with quintessence. See the article *QUINTESSENCE*.

AMBROSIA, among antient naturalists, a term used for the rough or crude wax, supposed to be the food of bees. See the article *WAX*.

AMBROSIA, in botany, the name of a distinct genus of plants, with flosculous flowers, composed of several small infundibuliform floscules, divided into five segments: these, however, are barren; the fruit, which in some measure resembles a club, growing on other parts of the plant. See plate XV. fig. 3.

This genus belongs to the *monoeia pentandria* class of Linnæus.

It is of a repelling and astringent quality, revives the heart and brain, stops fluxes, and is prescribed both externally and internally.

AMBROSIAN OFFICE, in church-history, a particular formula of worship in the church of Milan, which takes its name from St. Ambrose, who instituted that office in the fourth century. Each church originally had its particular office; and when the pope, in after-times, took upon him to impose the roman office upon all the western churches, that of Milan sheltered itself under the name and authority of St. Ambrose; from which time the ambrosian ritual has prevailed, in contradistinction from the roman ritual.

AMBRY, a place in which are deposited all utensils necessary for house-keeping. In the antient abbies and priories, there was an office under this denomination, wherein were laid up all charities for the poor.

AMBUBAJÆ, in roman antiquity, were immodest women, who came from Syria to Rome, where they lived by prostitution, and by playing on the flute: the word is derived from the syriac *abbub*, which signifies a flute; although others make it come from *am* and *Baia*, because these prostitutes often retired to Baia. According to Cruquius, these women used likewise to sell paint for ornamenting the face, &c.

AMBULATION, the same with walking. See the article *EXERCISE*.

AMBULATION, in surgery, a term given to the

the spreading of a gangrene or mortification.

AMBULATORY, a term antiently applied to such courts as were not fixed, but removed sometimes to one place, sometimes to another: thus the court of parliament and court of king's bench were formerly ambulatory.

AMBURBIUM, in roman antiquity, a procession made by the Romans round the city and *pomerium*, in which they led a victim; and afterwards sacrificed it, in order to avert some calamity that threatened the city.

Scaliger, in his notes upon Festus; will have the *amburbium* to be the same with the *ambarvale*; but Servius, upon the third eclogue makes a distinction between them. See the article **AMBARVALIA**.

AMBURY, or **ANBURY**, among farriers; denotes a tumour, wart, or swelling, which is soft to the touch and full of blood: This disorder of horses is cured by tying a horse-hair very hard about its root; and when it has fallen off, which commonly happens in about eight days, strewing some powder of verdegreis upon the part, to prevent the return of the complaint. If the tumour be so low, that nothing can be tied about it, they cut it out with a knife, or else burn it off with a sharp hot iron; and in sinewy parts, where a hot iron is improper, eat it away with oil of vitriol, or white sublimate.

AMBUSCADE, or **AMBUSH**, in the military art, properly denotes a place where soldiers may lie concealed, till they find an opportunity to surprize the enemy.

AMBUSTION, *ambustio*, among physicians, the same with what we commonly call a burn. See the article **BURN**.

AMBY, a town of the austrian Netherlands, in the province of Linburg, situated opposite to Maastricht, on the east side of the river Maese, in 5° 45' east long. and 50° 56' north latitude.

AMELIA, a city of Italy, situated on a mountain, about fifty miles north-east of Rome, in 13° 20' east longitude, and 42° 40' north latitude.

AMEN, in the scripture language, a solemn formula, or conclusion to all prayer, signifying *so be it*.

The term *amen* is hebrew, being derived from the verb *aman*, i. e. to be true, faithful, &c. so that, strictly speaking, it signifies truth; and, used adverbially, as is frequently done in the gospels, truly or verily. Sometimes it is repeated twice together, and then it stands for the

superlative, as *amen, amen, dico vobis*.

AMENABLE, or **AMAINABLE**, among lawyers, one that may be led or governed, a term commonly applied to a woman governable by her husband.

AMEND, or **AMENDE**, in the french customs, a pecuniary punishment imposed by a judge for any crime, false prosecution, or groundless appeal.

Amende honorable, an infamous kind of punishment inflicted, in France, upon traitors, parricides, or sacrilegious persons, in the following manner: the offender being delivered into the hands of the hangman, his shirt is stripped off, and a rope put about his neck, and a taper in his hand; then he is led into court, where he must beg pardon of God; the king, the court, and his country. Sometimes the punishment ends here, but sometimes it is only a prelude to death, or banishment to the galleys.

Amende honorable is a term also used for making recantation in open court; or in presence of the person injured.

AMENDMENT, in law, the correction of an error committed in a process, which may be amended after judgment; unless the error lies in giving judgment, for in that case it is not amendable, but the party must bring a writ of error.

A bill may be amended on the file at any time before the plea is pleaded; but not afterwards, without motion and leave of the court.

AMENDMENT, in a literary sense, denotes the correction of some inpropriety in the first impressions of a book.

AMENDMENT of a bill, in parliament, is some alteration made in the first draught of it. We even read of amendments of amendments. However, it is to be observed, that all amendments are made in the house, from whence the thing to be amended originally proceeded.

AMENTACEOUS, in botany, an appellation given to such flowers as have an aggregate of summits hanging down in form of a rope, or cats-tail, which is also called an *julus* or catkin. See plate XV. fig. 4.

AMENTUM, in roman antiquity, a thong tied about the middle of a javelin or dart, and fastened to the fore-finger in order to recover the weapon as soon as it was discharged. The antients made great use of the amentum, thinking it helped to increase the blow.

Amentum also denotes a latchet that bound their sandals.

AMERCE-

Fig. 1. AMARANTH.



Fig. 2. AMARANTHODES.



Fig. 3. AMBROSIA.



Fig. 5. AMMI.





AMERCEMENT, or **AMERCIAMENT**, in law, a pecuniary punishment imposed upon offenders at the mercy of the court. Amercements differ from fines, the latter being certain punishments growing expressly from some statute, whereas the former are imposed arbitrarily in proportion to the fault.

Besides, fines are assessed by the court, but ameracements by the country.

A court of record only can fine, all others can only amerce.

Sheriffs are amerciable for the faults of their officers, and clerks of the peace may be amerced in the King's-bench for gross faults in indictments removed to that court.

A town is subject to amercement for the escape of a murderer in the day-time, and if the town is walled, it is subject to amercement whether the escape happens by day or night.

The statute of Magna Charta ordains, that a freeman is not to be amerced for a small fault, but in proportion to the offence, by his peers and equals.

AMERICA, one of the four grand divisions of the earth, otherwise called the West-Indies, is a vast continent lying between 80° north latitude, and 38° south latitude, and between 35° and 145° west longitude, bounded by the Atlantic ocean, which separates it from Europe and Africa on the east, and by the Pacific ocean, usually called the South sea, which divides it from Asia, on the west.

This vast continent is divided into two peninsulas, called North and South America, and separated from each other by the isthmus of Panama.

America, sometimes called the new world, as being unknown to the antients, is possessed at present by the European nations. To Spain belong old and new Mexico, Florida, Terra Firma, Peru, Chili, Patagonia, or Terra Magellanica, Paragua, and the islands Cuba, Hispaniola, Porto-Rico, and Trinidad. The Portuguese are masters of the extensive maritime country of Brazil. The British possess the provinces of Georgia, south and north Carolina, Virginia, Maryland, Pennsylvania, the two Jerseys, New York, New England, New Scotland, New Britain, and the islands Jamaica, Barbadoes, St. Christophers, Newfoundland, &c. and lastly, Hudson's-bay, or British Canada. The French claim all that extent of country, lying westward of the British plantations.

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tions, and are in possession of the islands of Caen, Martinico, Guadaloupe, &c. The Dutch are possessed of Surinam, and of some islands on the north coast of Terra Firma, as Curassow, Aruba, Bonaire, &c. And to Denmark belongs the island of St. Thomas. See the articles MEXICO, FLORIDA, &c.

Such, at least, were the partitions of this vast continent, as they stood before the breaking out of the present war, in the year 1756; during which France lost almost all her American settlements.

AMERSHAM, a market-town of Buckinghamshire, about twenty-seven miles westward of London.

It is situated in 40' west longitude, and 51°. 40' north latitude, and sends two members to parliament.

AMETHYST, *amethystus*, in the history of precious stones; a gem of a purple colour, which seems composed of a strong blue and a deep red: and according as either of those prevails, affording different tinges of purple, sometimes approaching to violet, and sometimes even fading to a pale rose-colour.

Though the amethyst be generally of a purple-colour, it is nevertheless sometimes found naturally colourless, and may at any time be easily made so by putting it into the fire; in which pellucid, or colourless state, it so well imitates the diamond, that its want of hardness seems the only way of distinguishing it. Some derive the name amethyst from its colour, which resembles wine mixed with water: whilst others, with more probability, think it got its name from its supposed virtue of preventing drunkenness; an opinion, which, however imaginary, prevailed to that degree among the antients, that it was usual for great drinkers to wear it about their necks.

Be this as it will, the amethyst is scarce inferior to any of the gems in the beauty of its colour; and in its purest state is of the same hardness, and at least of equal value with the ruby and sapphire. It is found of various sizes, from the bigness of a small vetch, to an inch and an half in diameter, and often to much more than that in length. Its shape is extremely various, sometimes roundish, sometimes oblong, and at others flattened, at least on one side; but its most common appearance is in a crystalliform figure, consisting of a thick column, composed of four planes, and terminated by a flat and short pyramid, of the same number

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of fides; or else, of a thinner and longer hexangular column; and sometimes of a long pyramid without any column. It makes the gayest figure in the last of these states, but is hardest and most valuable in the roundish and pebble-like form.

The amethyst is found in the East and West-Indies, and in several parts of Europe; the oriental ones, at least some of the finer specimens, being so hard and bright, as to equal any of the coloured gems in value. However, by far the greater number of amethysts fall infinitely short of these, as all the european ones, and not a few of those brought from the East and West-Indies, are very little harder than common crystal.

Counterfeit or factitious AMETHYST, a kind of glass made of crystal-frit, manganese, and saffer; which, in colour, greatly resembles the natural amethyst.

The method of giving this colour to glass is as follows. Take crystal-frit, made with the most perfect and fine tartar; then prepare a mixture of manganese in powder, one pound; saffer prepared, one ounce and half; mix these powders well together, and add to every pound of the frit, an ounce of this powder. Let it be put into the pots with the frit, not into the already made metal. When the whole has stood long enough in fusion to be perfectly pure, work it into vessels, and they will resemble the colour of the amethyst.

AMETHYST, in heraldry, a term for the purple colour in the coat of a nobleman, in use with those who blazon by precious stones instead of metals and colours. This, in a gentleman's escutcheon is called Purple, and in those of sovereign princes Mercury.

AMHAR, or AMHARA, a kingdom of Abyssinia in Africa, subject to the great Negus. It is bounded on the north by the kingdom of Bajender; on the east, by that of Angote; on the south, by the kingdom of Walaca; and on the west, by the Nile, which separates it from the kingdom of Gojam. This country is remarkable for the mountains Ghesghen and Ambacel, where the children and near relations of the kings of Abyssinia were formerly confined, upon which account it is regarded as the native country of the modern emperors.

AMIA, in ichthyology, the name of a fish nearly of the shape of the common mackerel, only that it is much larger;

being usually three feet in length. It is a species of scomber, with the last ray of the hinder dorsal fin very long. See the article SCOMBER.

AMIABLE, or AMICABLE numbers, such as are mutually equal to the sum of one another's aliquot parts, as the numbers 284 and 220.

Van Schouten was the first who gave this name to such numbers, of which it is easily apprehended, there are but very few at least to be set down and manageable by us. For 284 and 220 are the two least, and the two next greater are 18416 and 17296.

AMIANTHUS, in natural history, vulgarly called earth-lax, a fibrose, flexible, and elastic mineral substance, composed of short and abrupt filaments; being a genus of that order of fossils called asbestos. See the article ASBESTUS.

There are several species of amianthi; that of a greyish green colour, with short, abrupt, and interwoven filaments, is the same with the plumose alum of the shops. See the article *Plumose* ALUM.

The properties of the amianthus are very wonderful. They will neither give fire with steel, nor ferment with aqua fortis; and if thrown into the fire, will endure the most extreme heat without the least injury to their texture. In medicine, they are used as an ingredient in phlotha, and are said to resist poisons, and to cure the itch.

AMICABLE, in a general sense, denotes any thing done in a friendly manner, or to promote peace.

AMICABLE BENCHES, *scamna amicabile*, in roman antiquity, were, according to Pufcus, lower and less honourable seats allotted for the *judices pedanei*, or inferior judges, who upon being admitted of the emperor's council, were dignified by him with the title *amici*.

AMICTUS, in roman antiquity, was any upper garment worn over the tunica.

AMICTUS, among ecclesiastical writers, the uppermost garment antiently worn by the clergy; the other five being the alba, singulum, stola, manipulus, and planeta.

The amictus was a linen garment, of a square figure, covering the head, neck, and shoulders, and buckled, or clasped, before the breast. It is still worn by the religious abroad.

AMICULUM, in roman antiquity, a woman's upper garment, which differed from the palla, as we learn from Livy; but in

what that difference consisted, we are at a loss to know, unless that it was shorter than the palla.

The amiculum was worn both by matrons and courtezans.

The amiculum worn by men resembled the chlamys or paludamentum.

AMIENS, the capital city of Picardy in France, situated on the river Somme, in east longitude $2^{\circ} 30'$ and north latitude $49^{\circ} 50'$.

Amiens is a beautiful town, and a bishop's see, under the archbishop of Rheims. Here too is an university of considerable note.

AMITTERE LEGEM TERRÆ, among lawyers, a phrase importing the loss of liberty of swearing in any court. The punishment of a champion overcome or yielding in battle, of jurors found guilty in a writ of attain, and of a person outlawed.

AMMANNIA, in botany, the name of a genus of plants, belonging to the *tetrandria monogynia* class of Linnæus; the flower of which is composed of four oval patent petals, growing within the cup; and its fruit is a roundish capsule covered by the cup, and containing four cells: the seeds are numerous and small.

AMMI, **BISHOP'S WEED**, in botany, a distinct genus of umbelliferous plants, belonging to the *pentandria diogynia* class of Linnæus; the flower of which is rosaceous, and composed of heart-like petals; and its fruit is a small roundish and striated capsule, containing two striated seeds, convex on one side, and plane on the other. See plate XV. fig. 5.

The seeds of this plant are reputed aromatic, aperitive, carminative, and alexipharmic; being one of the lesser hot seeds of the shops, and recommended in hysterical complaints, as well as to expel wind, and to promote the menses.

AMMODYTES, the **SAND-EEL**, or **GRIG**, in ichthyology, a genus of malacopterygeous fishes. The characters of this genus of fishes are as follow: the body is oblong and slender, and is of a rounded but somewhat depressed figure; there are no belly-fins, the head is of a depressed form, and the branchiostege membrane on each side contains seven bones, but they are in great part covered by the opercula of the gills. The head of the ammodytes is small, much narrower than the body, of a compressed figure, and acute at the forepart; the lower jaw projects a great way beyond the upper, and

the opening at the mouth is large; the nostrils have each a double aperture, and stand in the middle between the eyes and the extremity of the rostrum; the eyes are large, and the iris of a silvery colour; the scales are extremely small on the back, and are of a greyish colour, and the belly is of a silvery-white. See plate XVI. fig. 1.

It has got the appellation ammodytes, from its diving into, or burying itself under the sand.

AMMON, or **HAMMON**, in antiquity, an epithet given to Jupiter in Libya, where was a celebrated temple of that deity, under the denomination of Jupiter Ammon. There has been a great dispute about the origin of this name. Some derive it from the greek *αμμος*, sand, in regard the temple was situate in the burning sands of Libya, others borrow it from the egyptian *anam*, a ram, as having been first discovered by that animal; others will have *ammon* to signify the sun, and the horns wherewith he is represented, the sunbeams.

AMMONIAC, or **Gum-AMMONIAC**, in the materia medica, a gum, or more properly a gum-resin, extracted from a ferulaceous plant growing in some parts of Africa and Asia. It is brought to us in drops or granules, and sometimes in large masses, composed of a number of these granules connected together by other matter of the same kind.

The best ammoniac is always freest from dross, of a yellowish colour without and white within, of a bitterish taste and castor smell.

Ammoniac is in great esteem with modern physicians. It attenuates and deterges, and therefore is prescribed in all distempers arising from grumes and viscidities, which prevent a due motion of the nervous fluid. It is found of vast service in asthmas, and infarctions of the lungs, in all nervous cases, and particularly those termed hysterical. Sometimes it is given in pills, but more usually in an emulsion of hyssop-water, which is called lac ammoniacum. It also enters into the composition of many topics as a suppurative, and is sometimes used externally in plaisters.

Sal AMMONIAC, a kind of chemical salt, more usually called sal-armoniac. See the article **ARMONIAC**.

AMMONITÆ, in natural history, the same with the cornua ammonis, or snake-stones. See **CORNU AMMONIS**.

AMMOSCHISTUM, in natural history, the name of a genus of fossils, consisting of slate stone, composed only of sparry and crystalline particles, or of talcy, sparry and crystalline particles. See **SLATE**.

AMMUNITION, a general term for all warlike provisions, but more especially powder, ball, &c.

Ammunition, arms, utensils of war, gunpowder, imported without licence from his majesty, are, by the laws of England, forfeited and triple the value.

And again, such licence obtained, except for furnishing his majesty's public stores, is to be void, and the offender to incur a præmonire, and be disabled to hold any office from the crown.

AMMUNITION BREAD, SHOES, &c. such as are served out to the soldiers of an army or garrison.

Whoever is curious to know the quantity of ammunition necessary for the siege of a place, may consult the chevalier de St. Julien's treatise *de la forge de Vulcain*; and the quantity requisite for the defence of a place, will be found in Suirey de St. Remy's *memoires d'artillerie*.

AMNESTY, ἀμνηστία, in matters of policy, an act by which two parties at variance, promise to pardon and bury in oblivion all that is past.

Amnesty is either general and unlimited, or particular and restrained, though most commonly universal, without condition or exceptions; such as that which passed in Germany at the peace of Osnaburg in the year 1648.

Amnesty, in a more limited sense, denotes a pardon granted by a prince to his rebellious subjects, usually with some exceptions: such was that granted by Charles II. at his restoration.

AMNIOS, in anatomy, a thin pellucid membrane, which surrounds the foetus.

The amnios is an interior membrane contiguous to the exterior one called the chorion, having no vessels, or at the utmost very few; and contains a pellucid glutinous liquor which flows out upon the breaking of this membrane at the time of delivery.

With regard to the liquor inclosed in the amnios, the famous Harvey thought it absolutely nutritious both from its taste and consistence, but later anatomists have disproved that doctrine, and have shewn that the use of that liquor is to prevent the weight of the child, and the inequalities of its body from bearing hard upon the neck of the uterus; to defend the

child from receiving hurt when it moves, and also to prevent it from adhering to the uterus.

AMOEBAEUM, ἀμοιβαιον, in antient poetry, a kind of poem, representing a dispute between two persons, who are made to answer each other alternately: such are the third and seventh of Virgil's eclogues.

AMOMUM, in the materia medica, the name of a species of fenum, an aromatic plant, the seed whereof is a powerful diuretic, and aperient; and, consequently, esteemed good in nephritic cases, obstructions of the viscera, and suppression of the menses. See the article **SIUM**.

As to the amomum of the antients, it is a congeries of round membranaceous fruits, the external coats of which are striated like those of the cardamoms, but not tough like them. They have no pedicel, but are affixed by their basis to a wooden stem of a fibrous texture, aromatic smell, and acrid taste. The flowers are like those of leucovium, and the leaves like those of briony.

The best amomum is that which is white or reddish, of a diffused substance, with pods full of seed, ponderous and fragrant.

AMOMUM, in botany, a genus of the monandria monogynia class of plants, the corolla whereof is monopetalous, consisting of a short tube, and a limb divided into three oblong segments, the middle segment is larger than the rest, and the sinus opposite to it more open; the nectarium is monophyllous, and inserted into the large sinus just mentioned; it scarce at all appears above the segments of the corolla; the fruit is coriaceous, of an oval figure, but somewhat three cornered, it is composed of three valves forming many cells; the seeds are numerous and small. The amomum comprehends the plant called zinziber by authors; for the uses and characters whereof, see the articles **GINGER** and **ZINZIBER**.

AMORBACH, a small city of Franconia in Germany, belonging to the elector of Mentz.

AMORE, in ichthyology, the name of a genus of brasilian fishes, of which there are three species. 1. The amore-guacu. 2. amore-tinga. 3. amore-pixuma. The amore-guacu is about half a foot long, with a pretty thick head, and large gills. It has seven fins, an oblong tail rounded at the extremity, and is covered with very large scales. This fish is also

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gether of a darkish colour, except in the belly, where it is a little more white.

The amore-tinga is of the same figure with the former, but less. Its scales are white and stained with black spots.

The amore-pixuma is as large as the tamoota, and resembles that fish very much. Its colour is very dark, except in the belly.

AMORGO, an island of the archipelago, about ninety miles north of Candia, lying in east longitude $26^{\circ} 15'$ and north latitude 37° .

AMORPHA, in botany, a genus of plants, belonging to the *diadelphia decandria* class of Linnæus; the flower of which consists of one petal vertically ovated, hollow and erect; and the fruit is a lunulated pod, of a compressed form, and covered with tubercles, in which are contained two seeds, of an oblong kidney-like shape.

AMORTIZATION, in law, the alienation of lands or tenements to a corporation or fraternity, and their successors. See the article **MORTMAIN**.

Amortization also denotes the privilege of taking lands, &c. in mortmain, for which purpose the king's consent must first be obtained. This licence is granted upon paying to the king and the superior a certain sum to indemnify them for several incidental dues, which in the common way would have fallen to them, but by the amortization are cut off.

AMOS, or the *prophecy of AMOS*, a canonical book of the Old Testament. This prophet boldly remonstrates against the crying sins that prevailed among the Israelites, such as idolatry, oppression, wantonness and obstinacy, and reproves the people of Judah for their carnal security, sensuality and injustice. He terrifies them both with frequent threatenings, and pronounces that their sins will at last end in the ruin of Judah and Israel, which he illustrates by the visions of a plumb line and a basket of summer-fruits. He begins with denunciations of judgment and destruction against the enemies of the Jews, and concludes with promises of restoring the tabernacle of David, and erecting the kingdom of Christ.

AMOVING, the act of expelling a person from his place or office. There is a statute for amoving papists from London and Westminster, and ten miles round them.

AMOUR, a large river of Asia, which, arising

in Siberia, runs eastward through Chinese Tartary, and falls into the bay of Corea in the indian ocean.

AMOY, an island on the south-west coast of China, situated in east longitude 118° north latitude 25° .

AMPELIS, in zoology, a species of passerines, of a chestnut brown colour with a ferruginous breast. This bird has a head of a pale chestnut colour on the forepart, but of a deeper brown behind, short but well feathered wings, a tail moderately long, and slender legs of a bluish black colour. It is a native of Bohemia.

AMPELITES, CANNEL-COAL, in natural history, a solid, dry, opaque fossil, very hard, not fusible, but easily inflammable and burning with a bright, vivid, white flame. It is found in many parts of England, but particularly in a quarry near Alençon in France: it is of a very good black, though not near so deep and shining as jet, and in the thinnest pieces, has not the least transparency.

It makes no effervescence with aqua fortis. It dies the hair black: being applied to the belly, it is reputed good for killing of worms. It is capable likewise of a fine polish, and for that reason is turned into a vast number of toys, as snuff-boxes, and the like.

Ampelites is by some called vine-earth, because it kills the worms that creep upon the vines.

AMPHIARTHROSIS, *αμφιarthrosis*, in anatomy, a term under which some moderns comprehend all those junctures of the bones, which have a manifest motion, and which differ from the several articulations of the diarthrosis either in regard to their figure or motion. See the article **DIARTHROSIS**.

AMPHIBIOUS, among zoologists, an appellation given to a class of animals, which live part of their time in the water, and part of it on land.

The distinguishing characters of this class, according to Linnæus, are these: they have either naked or scaly bodies, and sharp-pointed fore-teeth, but without any grinders, or *dentes molares*: to which add, that they have no radiated fins.

To this class belong the tortoise, the frog-kind, and the lizard and serpent-kinds. See the article **TORTOISE**, &c.

Anatomists observe, that the lungs of amphibious animals are so formed, that though respiration be necessary to them, yet it is not requisite to be performed at short

short intervals. Hence it is, that they can remain a long time under water without being suffocated, and many of them, even a considerable part of their lives.

AMPHIBIOUS, in botany, a term sometimes applied to the plants, more usually called aquatic. See **AQUATIC**.

AMPHIBLESTROIDES, in anatomy, a name by which some call the retina of the eye. See **RETINA**.

AMPHIBOLIA. See the next article.

AMPHIBOLOGY, *αμφιβολία*, in grammar and rhetoric, a term used to denote a phrase susceptible of two different interpretations.

Amphibology arises from the order of the phrase, rather than from the ambiguous meaning of a word.

Vossius rather chuses to call this defect of language, *amphibolia*.

AMPHIBRACHYS, in antient poetry, the name of a foot consisting of three syllables; whereof that in the middle is long, and the other two short: such is the word *ἀμβραχς*.

AMPHICTYONS, *αμφικτυονες*, in grecian antiquity, an assembly composed of deputies from the different states of Greece, and resembling, in some measure, the diet of the german empire. See **DIET**. Some suppose the word *αμφικτυονες* to be formed of *αμφι*, about, and *κτυον*, or *κλειν*, in regard the inhabitants of the country round about met here in council. Others, with more probability, from Amphictyon, son of Deucalion, whom they suppose to have been the founder of this assembly; though others will have Acrisius, king of the Argives, to have been the first who gave a form and laws to this body.

The amphictyons met regularly at Delphi, twice a year, viz. in spring and autumn; and decided all differences between any of the grecian states, their determinations being held sacred and inviolable.

Authors give different accounts of the number of the Amphictyons, as well as of the states who were entitled to have their representatives in this council; according to Strabo, Harpocration, and Suidas, they were twelve from their first institution sent by the following cities, and states; the Ionians, Dorians, Peræthians, Boeotians, Magnesians, Achæans, Phthians, Melians, Dolopians, Ænians, Delphians, and Phocæans. Æschines only reckons eleven, instead of

the Achæans, Ænians, Delphians, and Dolopians, he only gives these three, the Thessalians, Ætæans, and Locrians; and Pausanias no more than ten.

In the time of Philip of Macedon, the Phocæans were excluded the alliance, for having plundered the Delphian temple, and the Lacedæmonians were admitted in their place; but the Phocæans sixty years after, having behaved gallantly against Brënnus and his Gauls, were restored to their seat in the Amphictyonic council. Under Augustus, the city Nicopolis was admitted into the body; and to make room for it, the Magnesians, Melians, Phthians, and Ænians, who till then had distinct voices, were ordered to be numbered with the Thessalians, and to have only one common representative. Strabo speaks as if this council were extinct in the times of Augustus and Tiberius; but Pausanias who lived many years after, under Antoninus Pius, assures us it remained intire in his time, and that the number of Amphictyons was then thirty.

The members were of two kinds; each city sending two deputies, under different denominations, one called *ἱερομαμων*, whose business seems to have been more immediately to inspect what related to sacrifices and ceremonies of religion; the other *πυλαγορας*, charged with hearing and deciding of causes and differences between private persons. Both had an equal right to deliberate and vote, in all that related to the common interests of Greece. The Hieromnemon was elected by lot; the Pylagoras, by plurality of voices.

AMPHIDROMIA, *αμφιδρομία*, in antiquity, constituted part of the lustration of infants. See **LUSTRATION**.

AMPHIMACER, in ancient poetry, a foot consisting of three syllables, whereof the first and last are long, and that in the middle short: such is the word *αμψιμακας*.

AMPHIPOLES, in antiquity, the principal magistrates of the city of Syracuse, in Sicily, called archons at Athens. See the article **ARCHON**.

AMPHIPOLIS, or **STRYMÓN**, a town of european Turkey, once the capital of Macedonia, situated in east longitude 40° 5'. and north latitude 41° 30'.

AMPHIPPII, in grecian antiquity, soldiers, who, in war, used two horses without saddles, and were dextrous enough to leap from one to the other.

Authors



Fig. 1. AMMODYTES, the SAND-HEEL.

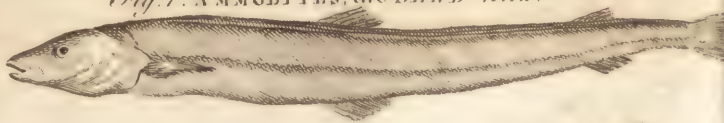


Fig. 2. AMPHISUENA.



Fig. 3. AMPHITRITE.



Fig. 4. ANYGDALUS, ALMOND-TREE.

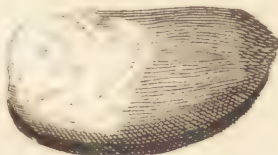


Fig. 5. ANAGALLIS.



Fig. 6.



ANAMORPHOSIS.

Authors are not agreed, whether these horses were yoked together or not.

AMPHIPRORÆ, in the naval affairs of the antients, vessels with a prow at each end.

They were used chiefly in rapid rivers, and narrow channels, where it was not easy to tack about.

AMPHIPROSTYLE, in the architecture of the antients, a temple which had four columns in the front, and as many in the face behind.

AMPHISBÆNA, in zoology, a kind of serpent so called, because it moves with either end forward. It is a native of warm climates. See plate XVI. fig. 2.

The body of the amphibæna, has a number of circular annuli, surrounding it from the head to the extremity of the tail; so that it seems composed of a number of narrow and somewhat rounded rings applied close to one another, and having deep furrows between them.

Of the amphibæna there are several species: whereof the flesh, liver, and heart, are proper to excite sweat, and reputed an antidote against poison.

AMPHISCII, among geographers, a name applied to the people who inhabit the torrid zone.

Amphiscii, as the word imports, have their shadows one part of the year towards the north, and at the other towards the south, according to the sun's place in the ecliptic. They are also called Ascii. See the article ASCII.

AMPHITHEATRE, in antiquity, a spacious edifice, built either round or oval, with a number of rising seats, upon which the people used to sit and behold the combats of gladiators, of wild beasts, and other sports.

Amphitheatres were at first only of wood, and it was not till the reign of Augustus, that Statilius Taurus built one for the first time of stone. The lowest part was of an oval figure, and called arena, because, for the convenience of the combatants, it was usually strewn with sand, and round the arena were vaults stiled *caveæ*, in which were confined the wild beasts appointed for the shews.

Above the caveæ was erected a large circular peristyle, *podium*, adorned with columns. This was the place of the emperors, senators, and other persons of distinction.

The rows of benches were above the podium. Their figure was circular, and they were entered by avenues, at the end

of which were gates, called vomitorie.

The most perfect remains we now have of antient amphitheatres, are that of Vespasian, called the coliseum, that at Verona in Italy, and that at Nîmes in Languedoc. See COLISEUM.

AMPHITHEATRE, in gardening, a temple of view, erected on a rising ground, of a semicircular figure.

These amphitheatres are formed of evergreens, observing always to plant the shortest growing trees in the front, and the tallest trees behind.

They are also made of slopes on the sides of hills, and covered with turf, being formerly esteemed great ornaments in gardens, but they are now generally excluded; as the natural slope of such hills is to persons of true taste, far more beautiful than the stiff angular slopes of these amphitheatres.

AMPHITRITE, in zoology, the name of a small naked sea insect, of an oblong figure, with only one tentaculum, resembling a piece of thread.

There are several species of this animal, some of which are marginated, and variously furrowed, so as to bear some resemblance to a quill. See plate XVI. fig. 3. N^o. 1 and 2.

AMPHORA, in antiquity, a liquid measure, in use among the Greeks and Romans. See the article MEASURE.

The roman amphora contained forty-eight sextaries, and was equal to about seven gallons one pint, english wine-measure; and the grecian, or attic amphora, contained one third more.

Amphora, was also a dry measure, likewise in use among the Romans, and contained three bushels.

AMPHORA, among the Venetians, the largest measure used for liquids. It contains four bigorzas, the bigorza being four quarts, the quart four sachie, and each sachie four leras; but by wholesale, the amphora is fourteen quarts, and the bigorza three quarts and a half.

AMPHORA, in astronomy, a name sometimes used for one of the twelve signs of the zodiac, more usually called aquarius. See the article AQUARIUS.

AMPHOTIDES, in antiquity, a kind of armour or covering for the ears, worn by the antient pugiles, to prevent their adversaries from laying hold of this part.

AMPLIATION, in roman antiquity, was the deferring to pass sentence in certain causes. This the judge did, by pronouncing the word *amplius*; or by writing the

the letters N. L. for *non liquet*; thereby signifying, that as the cause was not clear, it would be necessary to bring farther evidence.

AMPLIFICATION, in rhetoric. See the article **EXAGGERATION**.

AMPLITUDE, in astronomy, an arch of the horizon intercepted between the east or west point thereof, and the center of the sun, star, or planet, at its rising and setting, and so is either north or south.

If the amplitude be taken from the rising sun, or star, it is called its rising or orbitive amplitude; if when it sets, its setting or occative amplitude. The sun's amplitude, either rising or setting, is found by the globes, by bringing the sun's place to the horizon, either on the east or west side, and the degrees from the east point, either north or south, are the amplitude required. To find the amplitude trigonometrically, say, as the cosine of the latitude : radius :: sine of the present declination : sine of the amplitude. This problem is useful in navigation, to find the variation of the compass.

Magnetical AMPLITUDE, the different rising or setting of the sun, from the east or west points of the compass. It is found by observing the sun, at his rising and setting, by an amplitude-compass.

AMPLITUDE of the range of a projectile, the horizontal line, subtending the path in which the projectile moved. See the article **PROJECTILE**.

AMPULLA, in antiquity, a round big-bellied vessel, which the antients used in their baths, to contain oil for anointing their bodies.

Ampulla was also a cup made of glass, and sometimes of leather, for drinking out of at table.

AMPURIAS, a town of Spain, capital of the district of Ampouzdán in Catalonia, and situated in east longitude $2^{\circ} 50'$ and north latitude $42^{\circ} 15'$.

AMPUTATION, in surgery, the cutting off a limb, or other part of the body, with an instrument.

Tho' the amputation of limbs is as much as possible to be avoided, yet in many cases it is absolutely necessary to save the patient's life. Such as, 1. When the muscles of the part, or limb, are sphacelated. 2. When the muscles and bones are violently contused and shattered. 3. When there is an incurable caries, or spina ventosa. 4. When a large artery

is either totally divided, or so wounded, that the hæmorrhage is not to be stopped without the danger of mortification.

When it is required on account of either of these causes to amputate a limb, the arm for example; two things must be observed: 1. The place where the amputation is to be made, which should be one or two fingers breadth above the injured part, and never in it. 2. The preparation of the several necessary instruments. The whole apparatus being provided, the patient, assistants, and surgeon being disposed in proper postures, and the tourniquet applied to the arm, the operation is begun by an annular incision made through the skin with a scalpel, upon which the skin is drawn upwards as much as possible. Then the flesh is divided down to the bones with the crooked scalpel, the ligaments between the ulna and radius are cut, and the periosteum are separated from the bones. The last step is to fix the saw so as that it may work upon the bones of the cubitus at the same time. It must also be moved gently at the beginning, but when well entered, the motion may be faster. And thus in one or two minutes, the amputation may be completed. See the article **SAW**.

The business, however, of the surgeon is not at an end here. He is to make a strict compressure and deligation upon the larger arteries, to suppress the hæmorrhage. This is done, by securing the larger arteries by ligature with needle and thread, and the smaller by square compresses of linen, and sometimes, as among the ancients, by the actual cautery. The flesh and ends of the bones, likewise, are to be invested with dossils of dry lint, over which a piece of the fungus called *crepitus lupi*, with a bolster of tow, are to be fixed and retained on the stump by a wet bladder or plaister; so that the skin may be drawn down to cover the wound, and procure a speedy cicatrification. See the article **WOUND**.

AMSDORFIANS, in church-history, a sect of protestants, in the XVIth century, who took their name from Amldorf, their leader.

They maintained, that good works were not only unprofitable, but even opposite and pernicious to salvation.

AMSTERDAM, a large and beautiful city of Holland, situated on the river Amstel, and an arm of the sea, called Wye, a little eastward of the Zuyder-sea, in

in 4° 30' east longitude, and 52° 20' north latitude.

It is computed to be half as big as London; and, in point of trade, equal to any town of the known world; there being people in it of almost every nation and religion in Europe, who apply themselves, with the utmost diligence, to heap up wealth, not with a view to enjoy it, but to have the pleasure of dying rich.

AMSTERDAM is also the name of a town of the Curacoës, in America: likewise the name of three islands, one of which lies in the indian ocean, between New Holland and Madagascar; the second between Peru and the islands of Solomon; and the third in the chinese sea, between Japan and the island of Formosa.

AMULET, a charm, or preservative against mischief, witchcraft, or diseases.

Amulets were made of stone, metal, simples, animals, and, in a word, of every thing which fancy or caprice suggested; and sometimes they consisted of words, characters, and sentences, ranged in a particular order, and engraved upon wood, &c. and worn about the neck, or some other part of the body. See the article **ABRACADABRA**.

At other times they were neither written nor engraved, but prepared with many superstitious ceremonies, great regard being usually paid to the influence of the stars. The Arabians have given to this species of amulet the name of talisman. See the article **TALISMANS**.

All nations have been fond of amulets; the Jews were extremely superstitious in the use of them, to drive away diseases; and the Misna forbids them, unless received from an approved man, who had cured at least three persons before, by the same means.

Even amongst the christians of the early times, amulets were made of the wood of the crofs, or ribbands with a text of scripture written in them, as preservatives against diseases; and therefore the council of Laodicea forbids ecclesiastics to make such amulets, and orders all such as wore them to be cast out of the church.

AMURCA, among antient physicians, a medicine prepared by boiling the recrements or fæces of oil olives to the consistence of honey; of some use as an astringent and drier.

Amurca is also an appellation used by some writers for the fluid found in the *renes succenturiati*. See the article **SUC-CENTURIATI**.

VOL. I.

AMY, in law, the next friend or relation to be intrusted for an infant. See the article **PROCHEIN**.

Alien amy signifies a foreigner here, subject to some foreign prince, or power, in friendship with us.

AMYGDALA, in botany, the fruit of the amygdalus, or almond tree. See the article **ALMOND-TREE**.

AMYGDALÆ, *almonds*, in anatomy. See the article **ALMONDS**.

AMYGDALUS, the almond tree, in botany, a genus of trees, for the description and uses of which, see the article **ALMOND-TREE**, and plate XVI. fig. 4.

AMYLON, or **AMYLUM**, a term given to starch. See the article **STARCH**.

It is used in the materia medica amongst astringents and agglutinants.

Amylum, in a general sense, is used by Castellus to signify any sort of chymical fæculæ.

AMYTHAONIS emplastrum, among antient physicians, a plaster for convulsions, and distortions of the joints. It was made of gum ammoniac, wax, bdellium, each eight drams; of turpentine, illyrian or rice, galbanum, each twenty drams.

AMZEL, in ornithology, the english name of two species of merulæ, or black-birds. See the article **MERULÆ**.

AN JOUR and WASTE, in law, signifies a forfeiture of lands for a year and a day, to the king, by persons committing petit treason and felony, and afterwards the land falls to the lord.

ANA, among physicians, denotes an equal quantity of the ingredients which immediately precede it in prescriptions: it is written by abbreviation \bar{a} or $\bar{a}\bar{a}$; thus, *R. thur. myrrh. alum. $\bar{a}\bar{a}$, i ð*: that is, take frankincense, myrrh, and alum, each a scruple.

ANA, in matters of literature, a latin termination added to the titles of several books in other languages.

They are collections of the conversation and memorable sayings of men of wit and learning; the Scaligeriana was the first book that appeared with a title in *ana*, and was afterwards followed by the Perroniana, Thuana, Naudæana, Menagiana, and even by Arlequiniana, in ridicule of all books in *ana*. The Menagiana are accounted the best.

ANA, among occult philosophers, a term used to denote the human mind; from whence some will have *anasapta*, a demon invoked by sick persons, to be derived.

6

ANA-

ANABAPTISTS, in church-history, a sect of protestants, which sprung up in Germany, in 1521, immediately after the rise of lutheranism. At first, they preached up an entire freedom from all subjection to the civil as well as ecclesiastical power: but the tenet from whence they take their name, and which they still maintain, is their re-baptizing all new converts to their sect, and condemning infant-baptism.

Great troubles were occasioned in Germany by this sect; but of all places, where they prevailed, none suffered so much by them as the town of Munster. The anabaptists, however, of Holland and Friesland disapproved the seditious behaviour of their brethren of Munster: and, at present, though this sect still subsists as well in Britain as abroad, yet they no longer pretend to be divinely inspired, they no longer oppose magistrates, nor preach up a community of goods, &c.

The anabaptists support their principal doctrine upon those words of our saviour, *He that believeth, and is baptized, shall be saved*. Now, as adults, or grown persons, are alone capable of believing, they argue, that none but adults are fit to be baptized. This doctrine is opposed, by alledging the contrary practice of the primitive church, as well as from scripture, which tells us, that children are capable of the kingdom of heaven, and at the same time assures us, that, *except a man be baptized, he cannot enter into the kingdom of God*.

As for the anabaptists in England, they differ in very little from the other protestant dissenters, except their rejecting infant-baptism; as appears from their confession of faith, published in 1689.

ANABASII, in antiquity, expeditious couriers, who carried messages of importance, and travelled either on horseback, or in wheel-carriages. See **COURIER**. They are mentioned by St. Jerome, in his third book against Rufinus.

ANABASIS, among physicians, denotes either the increase or augmentation of a fever in general, or of any particular paroxysm.

ANABASIS, in the linnæan system of botany, a genus of the pentandria digynia class of plants, the calyx of which is a perianthium, consisting of three roundish concave, obtuse, patent, leaves; the corolla is composed of five oval, equal, permanent petals, less than the cup: the

fruit is a roundish berry, containing a single seed.

ANABIBAZON, in astronomy, a name given to the northern node of the moon or dragon's head. See **DRAGON'S HEAD**.

ANABLEPS, in ichthyology, a genus of malacopterygious fishes with six bones in the branchiostegæ membrane, and only two small fins in the extremity of the back. Of this genus there are only one known species.

ANABOLEUS, ἀναβόλευς, in antiquity, an appellation given to grooms of the stable, or equerries, who assisted their masters in mounting their horses.

As the ancients had no stirrups, or instruments that are now in use for mounting a horse, they either jumped upon his back, or were aided in mounting by anabolei.

ANABROSIS, ἀναβροσις, among ancient physicians, a corrosion of the solid parts, by acid humours. It is also called *diabrosis*.

ANACALYPTERIA, ἀνακαλυπτήρια, in antiquity, festivals among the Greeks on the day that the bride was permitted to lay aside her veil, and appear in public. The word is derived from a verb which signifies to uncover.

ANACAMPTIC, a name applied by the ancients to that part of optics which treats of reflexion, being the same with what is now called catoptrics. See **CATOPTRICS**. It is also used with regard to echoes, which are sounds produced by reflexion.

ANACARDINE CONFECTION, *anacardina confectio*, among physicians, a preparation of *anacardiums*, or molucca-beans, with mirobalans, pepper, castoreum, refined sugar, laurel-berries, cyprus, costus, and rocket; esteemed excellent in all cold disorders; also for strengthening the memory and understanding.

ANACARDIUM, the *acajou*, or *cashew-nut-tree*, in botany, a genus of the decandria monogynia class of plants, the calyx of which is a deciduous perianthium, composed of one leaf, divided into five parts, erect and acuminate: the corolla consists of a single petal; the tube is very short; the limb is divided into five lanceolated reflex segments longer than the cup: there is no pericarpium; the seed is a large nut, of a kidney like shape, placed at the extremity of the receptacle, which is very large, fleshy, and of a turbinated oval figure. See the article **ACAJOU**.

ANA

ANACATHARSIS, *ανακαθαρσις*, among physicians, denotes a discharge of noxious humours by spitting; in which sense it stands contradistinguished from *catarsis*, or a purgation by stool.

Hence,

ANACATHARTICS, in pharmacy, an appellation given to all such medicines as promote an *anacatharsis*; though some likewise comprehend emetics, errhines, masticatories, &c. under this term. See the article **EMETIC**, &c.

ANACEPHALÆOSIS, *ανακεφαλαίωσις*, in rhetoric, the same with recapitulation, See the article **RECAPITULATION**.

ANACHORET, *αναχωρετα*, in church-history, denotes a hermit, or solitary monk, who retires from the society of mankind into some desert, with a view to avoid the temptations of the world, and to be more at leisure for meditation and prayer.

Such were Paul, Anthony, and Hilarion, the first founders of a monastic life, in Egypt and Palestine.

Anachorets, among the Greeks, consist principally of monks, who retire to caves or cells, with the leave of the abbot, and an allowance from the monastery; or who weary of the fatigues of the monastery, purchase a spot of ground, to which they retreat, never appearing again in the monastery, unless on solemn occasions. They are sometimes called *ascetæ*. See the article **ASCETICS**.

In the west, anchorets are extolled, by Peter Damian, as the most perfect sort of monks: they often amassed great riches, by the presents that were brought to them, out of regard to their piety; and all their wealth was bequeathed, at their death, to the monastery they had belonged to, in consequence of the permission to retire and live a solitary life.

ANACHRONISM, in matters of literature, an error with respect to chronology, whereby an event is placed earlier than it really happened, in which sense it stands opposite to *parachronism*.

ANACLASTICS, *anaclastica*, that part of optics which considers the refraction of light. See the article **REFRACTION**.

ANACLASTIC glasses, *Vitra Anaclastica*, a kind of sonorous phials, or glasses, chiefly made in Germany, which have the property of being flexible; and emitting a vehement noise by the human breath. They are also called *vexing glasses*, by the Germans, on account of

the fright and disturbance they occasion by their refilition.

The *anaclastic glasses* are a low kind of phials with flat bellies, resembling inverted funnels, whose bottoms are very thin, scarce surpassing the thickness of an onion peel: this bottom is not quite flat, but a little convex. But upon applying the mouth to the orifice, and gently inspiring, or as it were sucking out the air, the bottom gives way with a horrible crack, and of convex, becomes concave. On the contrary, upon expiring or breathing gently into the orifice of the same glass, the bottom with no less noise bounds back to its former place, and becomes gibbous as before.

The *anaclastic glasses* first taken notice of, were in the castle of Goldbach; where one of the academists *Naturæ curiosorum*, having seen and made experiments on them, published a piece express on their history and phenomena.

They are all made of a fine white glass. It is to be observed in these, 1. That if the bottom be concave at the time of inspiration, it will burst; and the like will happen if it be convex at the time of expiration. 2. A strong breath will have the same effect even under the contrary circumstances.

ANACLETERIA, in antiquity, a solemn festival celebrated by the antients, when their kings or princes came of age, and assumed the reins of government. It is so called, because proclamation was made of this event to the people, who went to salute their prince, and congratulate him upon his new dignity.

ANACLINOPALE, among the antient *athletæ*, a kind of wrestling, performed on the ground; the combatants voluntarily throwing themselves down for that purpose.

ANACREONTIC VERSE, in antient poetry, a kind of verse, so called from its being much used by the poet *Anacreon*. It consists of three feet and a half, usually spondee and iambuses, and sometimes anapests; such is that of Horace,

Lydia dic per omnes.

ANACYCLUS, in botany, a genus of plants of the *syngenesia polygamia superflua* of Linnæus, being the same with the *santolinoides* of other authors. See the article **SANTOLINOIDES**.

ANADEMA, *αναδεμα*, in antiquity, denotes the fillet which the kings of Persia wore round their heads.

Anadema denotes also a kind of ornament which women wore on their heads like a garland.

ANADIPLOSIS, *ανδιπλωσις*, in rhetoric and poetry, a repetition of the last word of a line, or clause of a sentence, in the beginning of the next; thus,

*Pierides, vos hac facietis maxima Gallio:
Gallo, cujus amor; &c.*

*Et matutinis accredula vocibus instat,
Vocibus instat, & assiduas jacit ore querelas.*

ANADIPLOSIS, among physicians, the renewal of a cold fit, in a semiterian fever, before the fit is entirely ended.

ANADROMOUS, among ichthyologists, a name given to all fish which, at stated seasons, go from the fresh waters into the sea, and afterwards return back again. Such are the salmon, and some other truttaceous fishes.

Anadromous fishes frequent rivers chiefly to deposit their spawn; which done, they return again to the sea; the young fry likewise make for the sea, where having acquired their full growth, they return into the fresh water to lay their spawn.

ANAGALLIS, in botany, a genus of plants, belonging to the *pentandria-monogynia* class of Linnæus; the flower of which is monopetalous, multifid, and orbicular; the fruit is a globose capsule, containing only one cell, and dividing horizontally into two hemispheres; the seeds are numerous and angular.

Anagallis is very detesive, of a heating and drawing quality, whence it extracts splinters out of the flesh, has the virtue of drying without mordacity; and for that reason is esteemed proper for conglutinating wounds, and helping putrid ulcers. See plate XVI. fig. 5.

ANAGLYPHICE, or **ANAGLYPTICE**, denotes the art of embossing. See the article **EMBOSSING**.

ANAGNI, a town of Italy, in the Campagna di Roma, situated about thirty-two miles east of Rome, in 13° 45' east lon. and 42° north latitude.

ANAGNOSTA, or **ANAGNOSTES**, in antiquity, a kind of literary servant, retained in the families of persons of distinction, whose chief business was to read to them during meals, or at any other time when they were at leisure.

The anagnostæ were taught to read with clearness, propriety, and good accent. They were in great credit under the emperor Claudius.

ANAGOGICAL, signifies mysterious, transporting, and is used to express what-

ever elevates the mind, not only to the knowledge of divine things, but of divine things in the next life, such as they pass, and will pass eternally between God and his saints. This word is seldom used, but with regard to the different senses of scripture. The anagogical sense is, when the sacred text is explained with a regard to eternal life, the point which christians should have in view; for example, the rest of the sabbath, in the anagogical sense, signifies the repose of everlasting happiness.

ANAGOGY, or **ANAGOGE**, *αναγωγή*, among ecclesiastical writers, the elevation of the mind to things celestial and eternal.

It is also an interpretation of a passage of scripture, by which the mind is raised to the consideration of these things. See the preceding article.

ANAGRAM, *αναγραμμα*, in matters of literature, a transposition of the letters of some name, whereby a new word is formed, either to the advantage or disadvantage of the person or thing to which the name belongs; thus, from Galenus is formed Angelus: from James, Simea; and so of others.

Those who adhere strictly to the definition of an anagram, take no other liberty than that of omitting or retaining the letter H, at pleasure; whereas others make no scruple to use ϕ for π , ν for w , s for z , and c for k : and *vice versa*.

Besides anagrams formed as above, we meet with another kind in antient writers, made by dividing a single word into several; thus, *fas tinea mus* are formed out of the word *sustineamus*.

Anagrams are sometimes also made out of several words; such is that on the question put by Pilate to our saviour, *Quid est veritas?* whereof we have this admirable anagram, *viz. est vir qui ad-est*.

ANAGRAMMATIST, a person who composes or deals much in anagrams. See the preceding article.

ANAGROS, in commerce, a measure for grain used in some cities of Spain, particularly at Seville.

Forty-six anagros make about 10 $\frac{1}{4}$ quarters of London.

ANAGYRIS, **BEAN-TREFOIL**, in botany, a genus of plants with papilionaceous flowers, the vexillum of which is shorter than any of the other petals, and its fruit an oblong pod, containing kidney-like seeds: to this it is to be added, that three leaves stand on every petal. It belongs

to the *diadelphia decandria* class of Linneus.

According to Lemery, the leaves of *anagyris* are laxative, and its seeds emetic.

ANALECTA, or **ANALECTES**, in antiquity, a servant whose employment it was to gather up the off-falls of tables.

ANALECTA, *analecťs*, in a literary sense, is used to denote a collection of small pieces, as essays, remarks, &c.

ANALEMMA, *αναλημμα*, in geometry, a projection of the sphere on the plane of the meridian, orthographically made by straight lines and ellipses, the eye being supposed at an infinite distance, and in the east or west points of the horizon. See *orthographic projection of MAPS on the plane of the meridian*.

ANALEMMA denotes likewise an instrument of brass or wood, upon which this kind of projection is drawn, with an horizon and cursor fitted to it, wherein the solstitial colure, and all circles parallel to it, will be concentric circles; all circles oblique to the eye, will be ellipses; and all circles whose planes pass through the eye, will be right lines.

The use of this instrument is to shew the common astronomical problems, which it will do, though not very exactly, unless it be very large.

This instrument is very antient, Ptolemy having written upon it in a peculiar treatise. As to the method of constructing it, see Agulonius's *Optics*, Taquet's *Optics*, Witty in his *Treatise of the Sphere*, and Dechaies de *Astrolabiis*.

ANALEPSIS, among physicians, denotes the augmentation or nutrition of an emaciated body. Hence,

ANALEPTICS, in pharmacy, are restorative medicines, proper to nourish the body when much weakened. See the article **RESTORATIVE**.

ANALOGICAL, in a general sense, denotes something belonging to, or partaking of the nature of analogy. Hence, *Analogical syllogism* is one whose force chiefly depends on the analogy between the two premises. See **SYLLOGISM**.

ANALOGISM, among logicians, the arguing from the cause to the effect.

ANALOGISM, among physicians. See the article **ANALOGY**.

ANALOGISTA, among civilians, denotes a tutor, who is not obliged to give an account of his conduct.

ANALOGY, *αναλογια*, in matters of literature, a certain relation and agreement between two or more things; which in

other respects are entirely different; thus the foot of a mountain bears an analogy to the foot of an animal, although they are two very different things.

There is likewise an analogy between beings that have some conformity or resemblance to one another: for example, between animals and plants, and between metals and vegetables; but the analogy is still stronger between two different species of certain animals.

Analogy enters much into all our reasoning, and serves to explain and illustrate but not to demonstrate. Nevertheless, a great part of our philosophy hath no other foundation than analogy, the utility of which consists in superseding all necessity of examining minutely every particular body; for it suffices us to know, that every thing is governed by general and immutable laws, in order to regulate our conduct with regard to all similar bodies, as we may reasonably believe that they are all endowed with the same properties: thus, we never doubt that the fruit of the same tree has the same taste.

It is true, reasoning by analogy may sometimes induce to error: thus, the analogy between the constellation called leo, and the animal of that name, has given room to some astrologers to imagine that children born under that constellation were inspired with a martial spirit.

ANALOGY, among geometricians, denotes a similitude of ratios. See **RATIO**.

ANALOGY, in medicine, is the similitude observable among several diseases, in virtue of which they are treated nearly in the same manner: thus, by analogy, bleeding is prescribed in colds, the pleurisy, peripneumony, &c. as being all of an inflammatory nature. See the article **INFLAMMATORY DISEASES**.

ANALOGY, among grammarians, is the correspondence which a word or phrase bears to the genius and received forms of a language.

ANALOGY of doctrine, among critics, is the explaining the passage of an author, in a manner consistent with the system which he is known to have generally followed. And, nearly in the same sense, is

ANALOGY of faith, among divines, the connection which subsists between the several articles of the christian faith, in contradistinction from reason on the one hand, and from authority and tradition on the other. Hence, by analogy of faith, all obscure passages of scripture are to be interpreted, agreeably to the general system

system clearly demonstrable from holy writ.

ANALOGY, in rhetoric, a figure of speech otherwise called comparison. See the article **COMPARISON**.

ANALYSIS, in a general sense, is the resolution of something compounded, into its constituent parts. Hence,

ANALYSIS, among logicians, is a method of tracing things backward to their source, and of resolving knowledge into its original principles.

It is also called the method of resolution, and stands opposed to the synthetic method, or method of composition. See the article **METHOD**.

The art of this method consists chiefly in combining our perceptions, and classing them together with address; and in contriving a proper expression of our thoughts, so as to represent their several divisions, classes, and relations. This is clearly seen in the manner of computing by figures in arithmetic, but more particularly in the symbols applied in resolving algebraical problems.

ANALYSIS, among mathematicians, the art of discovering the truth or falshood of a proposition, or its possibility and impossibility. This is done by supposing the proposition, such as it is, true; and examining what follows from thence, until we arrive at some evident truth, or some impossibility, of which the first proposition is a necessary consequence; and from thence establish the truth or impossibility of that proposition.

The analysis of the antient geometricians consisted in the application of the propositions of Euclid, Apollonius, &c. till they arrived, proceeding step by step, at the truth required. That of the moderns, though not so elegant, must, however, be allowed more ready and general. By this last, geometrical demonstrations are wonderfully abridged, a number of truths are frequently expressed by a single line, and whole sciences may sometimes be learned in a few minutes, which otherwise would be scarcely attained in many years.

Analysis is divided, with regard to its object, into that of finites and infinites.

Analysis of finite quantities, that which is called specious arithmetic. See the article **ARITHMETIC**.

Analysis of infinites, the same with fluxions. See the article **FLUXIONS**.

ANALYSIS, in chemistry, the reduction of a mixed body into its principles. This is the chief object of chemistry, and is principally effected by means of fire. The antient chemists admitted only three principles or elements, salt, sulphur, and mercury: to which the moderns have added two more, water and earth: into these all bodies are resolvable by a chemical analysis, though no operation, no human art, can exhibit them pure and elementary.

On this then, as well as on other accounts, it is far from being clear, that a chemical analysis gives the true first elements of things; for it appears that there are corpuscles, which, when alone, are either so hard as to be incapable of being divided, or changing their figures; or so minute, as to escape the action of such bodies as might otherwise divide them.

ANALYSIS is also used to signify the anatomical dissection of an animal. See the article **ANATOMY**.

ANALYSIS, among grammarians, is the explaining the etymology, construction, and other properties of words. See the article **ETYMOLOGY**, &c.

ANALYSIS, in rhetoric, is the stripping a discourse of all its gorgeous dress of tropes and figures; or, shewing what use the orator has made of them, to embellish and set off every thing to the best advantage.

ANALYSIS of powers, is the operation of resolving them into their roots, otherwise called evolution. See the articles **EVOLUTION**, **POWER**, and **ROOT**.

ANALYSIS is also used for a brief, but methodical illustration of the principles of a science; in which sense it is nearly synonymous with what we otherwise call a synopsis.

ANALYSIS likewise denotes a table of the principal heads of a continued discourse, disposed in their natural order.

ANALYST, a person who makes use of the analytical method of resolving problems. See the article **ANALYSIS**.

ANALYTIC, or **ANALYTICAL**, in a general sense, denotes something belonging to analysis. See the article **ANALYSIS**.

ANALYTICS is more particularly used for the mathematical and logical analyses above explained.

ANAMNESTICS, among physicians, signs by which the present state of the body is discovered, in contradistinction from prognostics. See **PROGNOSTIC**.

Anam-



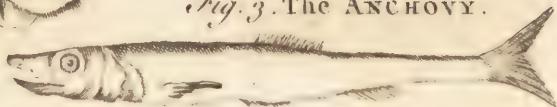
Fig. 1. ANANAS, the *PINE-APPLE*.



Fig. 2. ANAPODOPHYLLUM.



Fig. 3. The ANCHOVY.



Anamnestics, according to Blancard, also denote remedies which restore the memory: such are all spirituous things.

ANAMORPHOSIS, *αναμορφωσις*, in perspective and painting, a monstrous projection, or representation of an image on a plane or curve surface, which, beheld at a proper distance, shall appear regular and in proportion.

To delineate an anamorphosis upon a plane: 1. Draw the square *ABCD*, (plate XVI. fig. 6.) of a bigness at pleasure, and subdivide it into a number of little squares. 2. In this square, called the craticular prototype, let the image to be represented deformed, be drawn. 3. Then draw the line *ab* (ibid. fig. 7) equal to *AB*, and divide it into the same number of equal parts as the side of the prototype *AB*. 4. Erect the perpendicular *EV*, in the middle of *ab*, so much the longer as the deformity of the image is to be greater. 5. Draw *VS* perpendicular to *EV*, so much the shorter as you would have the image appear more deformed. 6. From each point of division draw straight lines to *V*, and join the points *a* and *S*, by the right line *aS*. 7. Through the points *defg* draw right lines parallel to *ab*, then will *abcd* be the space in which the monstrous projection is to be delineated: this space is called the craticular ectype. Lastly, in every areola, or small trapezium, of the space *abcd*, draw what appears delineated in the correspondent areola of the square *ABCD*; and thus you will obtain a deformed image, which will appear in just proportion to an eye distant from it the length *FV*, and raised above its height *VS*.

An image may be deformed mechanically, if you place it, having little holes made here and there in it with a needle, against a candle, and observe where the rays going through these holes, fall on a plane or curve surface; for they will give the corresponding points of the image to be deformed.

ANANAS, the PINE-APPLE, in botany, Tournefort's name for a genus of plants; the flower of which consists of only one infundibuliform petal, divided into three segments at the edge; and its fruit is of a turbinated form, containing a number of kidney-like seeds. See plate XVII. fig. 1.

The *ananas* belongs to the *hexandria-monogynia* class of Linnæus, who makes it a species of *Bromelia*. See *BROMELIA*. No fruit comes up to it, either for its de-

licious flavour or beautiful colour. It is propagated with us in stoves, and should be gathered and eaten as soon as ripe, which is known by its strong and agreeable smell, as well as softness.

The juice of the *ananas* makes an excellent wine, very proper to be given in a nausea, and to provoke urine: Lemery adds, that on the spot where it grows naturally, they make a confection of it, which is brought here whole, and is good to restore a weak constitution.

ANAPÆST, *anapæstus*, in antient poetry, a foot consisting of two short syllables and one long: such is the word *scōpūlōs*.

It is just the reverse of the dactyl. See the article *DACTYL*.

ANAPÆSTIC VERSES, those consisting wholly or chiefly of anapæsts.

ANAPHORA, in rhetoric, the repetition of the same word or words in the beginning of a sentence or verse: thus Virgil.

Pan etiam Arcadiâ mecum si iudice ceter,

Pan etiam Arcadiâ dicat se iudice victum.

ANAPHRODISIA, *αναφροδισια*, in antient physic, denotes impotence, with regard to venereal commerce.

ANAPLASIS, among antient physicians, the replacing of a fractured bone in the same situation it obtained before it was broken.

Anaplasis also signifies a renutrition of the extenuated flesh.

ANAPLEROSIS, in a general sense, is the same with repletion. See the article *REPLETION*.

Anaplerosis, among surgeons, expresses the restoring deficiencies; and in this sense is the same with *prosthesis*. See the article *PROSTHESIS*.

ANAPLEROTICS, in pharmacy, such medicines as promote the growth of flesh in wounds and ulcers.

Of this kind are several gums and balsams, as saicocolla and the vulnerary balsam.

Anaplerotics are also called incarnatives. See the article *INCARNATIVES*.

ANAPODOPHYLLUM, in botany, the name by which Tournefort calls the *podophyllum* of Linnæus. See plate XVII. fig. 2. and the article *PODOPHYLLUM*.

ANARCHY, in matters of polity, such a contestation in the state, that no supreme authority is lodged either in the prince or other rulers, and consequently the people live at large without subordination, or any respect for the laws,

All governments, in general, tend to one extreme or other, *viz.* despotism or anarchy.

No body can be fond of anarchy but those whose affairs are desperate; because private persons can never be sure of their lives and fortunes when the country is in a state of anarchy.

ANARRICHAS, in the artedion system of ichthyology, the name of a genus of malacopterygious fishes, called by other writers *lupus-marinus*, the sea-wolf. See the article **LUPUS**.

ANARTHRA, a class of naked insects, distinguished from all others by having neither wings nor limbs.

To this class belong all kinds of worms and leeches.

ANAS, in zoology, a genus of birds of the order of the *anser*, according to Linnæus, the beak of which is convex, with an obtuse point, and the whole verge furnished with transverse lamelliform teeth; the tongue is obtuse and ciliated. Under this genus are comprehended the *platea*, *cygnus*, *anser*, *eider*, *bernicle*, *penelope*, *boscus*, *clangula*, *glaucium*, *querquedula*, *fuligula*, &c.

ANASARCA, in medicine, a species of dropsy, wherein the skin appears puffed up and swelled, and yields to the impression of the fingers, like dough.

The causes of this disease are, 1. A diminution of the *vis vitæ*. 2. A viscosity in the blood and lymph, by which means the extremities of the vessels being obstructed, and the adipose cellules filled up, a greater quantity of lymph is collected in the body than can be received by the veins and lymphatic ducts, or expelled by the pores and other absorbent vessels. If the humour be too viscous, it is called *leucophlegmatia*. See the article **LEUCOPHLEGMATIA**.

As to the remedies for this distemper, see the article **DROPSY**.

ANASTASIS, among ancient physicians, denotes a rising up to go to stool. It likewise signifies a migration of humours, when expelled from one place, and obliged to remove to another.

ANASTATICA, the **ROSE** of **JERICHO**, in botany, a genus of the tetradynamia filiculosa class of plants, the calyx of which is a deciduous perianthium, consisting of four oval, oblong, concave, erect and deciduous leaves: its flower consists of four roundish petals, disposed in the form of a cross; and its fruit is a

short bilocular pod, containing in each cell a single roundish seed.

ANASTOMASIS, or **ANASTOMOSIS**, in anatomy, the opening of the mouths of vessels, in order to discharge their contained fluids; as in the menses, hæmorrhoids, blood from the nose or lungs, occasioned either by the weakness of the vessel, or the quantity of blood.

ANASTOMASIS likewise denotes the communication of two vessels at their extremities; for example, the inoculation of a vein with a vein, of an artery with an artery, or of an artery with a vein.

ANASTOMATICS, in pharmacy, medicines which have the power of opening the mouths of vessels, and promoting the circulation of the blood.

Such are all deobstruent, cathartic, sudorific, and diuretic medicines.

ANASTROPHE, *αναστροφή*, in rhetoric and grammar, denotes the inversion of the natural order of the words: such is *saxa per & scopulos*, for *per saxa & scopulos*.

ANATHEMA, *αναθήμα*, among ecclesiastical writers, imports whatever is set apart, separated, or devoted; but is most usually meant to express the cutting off a person from the privileges of a society and communion with the faithful.

The anathema differs from excommunication in the circumstance of being attended with curses and execrations. It was practised in the primitive church against notorious offenders; and the form of that pronounced by Synecius against one Andronicus, is as follows: "Let no church of God be open to Andronicus, but let every sanctuary be shut against him. I admonish both private men and magistrates, neither to receive him under their roof, nor to their table; and priests more especially, that they neither converse with him living, nor attend his funerals when dead."

Several councils also have pronounced anathemas against such as they thought corrupted the purity of the faith, and their decisions have been conceived in the following form: *Si quis dixerit, &c. anathema sit.*

There are two kinds of anathemas, the one judiciary, and the other abjunctory. The former can only be denounced by a council, a pope, or a bishop; the latter makes a part of the ceremony of abjuration, the convert being obliged to anathematize the heresy he abjures. See the article **ABJURATION**.

ANATHEMA, in heathen antiquity, was an offering or present made to some deity, so called from its being hung up in the temple.

Whenever a person left off his employment, it was usual to dedicate the tools to the patron-deity of such a trade. Persons too, who had escaped some imminent danger, as shipwreck, and the like, or had met with any other remarkable instance of good fortune, seldom failed to testify their gratitude by some present of this kind.

ANATHEMATATA likewise denote christian offerings, otherwise called donations. See the article **DONATION**.

ANATHEMATIZING, the act of pronouncing an anathema against some person or other. See **ANATHEMA**.

ANATOCISM, *ανατοκισμός*, in antiquity, an usurious interest for the use of money. This is when the lender accumulates together the interests of several years, and requires a new interest to be paid for them, as for the first principal.

ANATOMICAL, in a general sense, denotes something belonging to anatomy: Hence we say anatomical preparations, injections, &c. See **PREPARATION**, &c. and the next article.

ANATOMY, *ανατομή*, among physicians, surgeons, &c. the art of dissecting, or taking to pieces, the several solid parts of animal bodies, with a view to discover their structure and uses.

Anatomy, in respect of its subject, is divided into human and comparative.

Human anatomy is that which is employed on the human body, and comparative anatomy that which is employed upon the bodies of other animals, these serving for the more accurate distinctions of several parts, and supplying the defects of human subjects.

Anatomy from its various ends, may be said to be of four kinds; the primary one is an acquaintance with the work of the creator, in the human frame, as an intimate knowledge of the figure of the several parts of the human body, their connections, communications, actions, and uses, is one of the strongest arguments against atheism: the science, therefore, treated in this light, may be called philosophical or theological anatomy.

Of the secondary ends, the first is health, for the preservation of which, restoring it when impaired by diseases, or even preventing their access, nothing surely is more necessary than a true knowledge of

the structure of that frame which is liable to be injured: in this sense anatomy is styled medical; and many, indeed, establish this as the first species of it, and the preserving and restoring health as its primary object.

Another end of anatomy is determining the cause of suspicious deaths, impotency, barrenness, the true times of pregnancy and delivery, the mortality of wounds, and a multitude of other cases of great importance to be adjusted in a court of judicature: and in this sense the science may be called juridical.

But, lastly, a great end of anatomy is the determining the cause and manner of the death of diseased persons, from a subsequent dissection of the body: this is of the utmost use in the practice of physic, to discover the latent causes of many diseases, which, without the assistance of these dissections, the world could never have been truly acquainted with.

Upon the whole, then, it appears that the use of anatomy is very great, nor is it confined to the bounds of medicine alone: the philosopher and the magistrate, the painter and the sculptor, are in their respective employments, more or less qualified, in proportion to the progress they have made in this science; but the physician and surgeon are the people to whom it is most immediately necessary; and who, without a perfect knowledge of it, cannot do justice to the world in their professions. What the needle is to the mariner, anatomy is to both these; and we may venture to say, that without its assistance, they would be rather detrimental than beneficial to mankind.

With regard to the antiquity of anatomy, it seems scarcely possible, but that the slaughter of beasts for the use of man, casualties, murders, and the accidents of war, must have furnished mankind with a general knowledge of the structure of the parts, in very early ages of the world. But it is not very certain at what period it began to be cultivated as a science. This, however, must have been very early, especially if we pay any regard to Manetho, the famous egyptian writer, who, according to Eusebius, relates, that Athotis, an egyptian king, wrote some treatises of anatomy. This king, if the egyptian chronology was to be depended upon, lived many ages before Adam. This, however false with regard to time, tends to prove the great antiquity of the science. However this be,

it is certain that, before, or, at least, in the days of Homer, anatomy was much cultivated, since this author appears to have had a competent knowledge of the parts, and to have been well versed in the renunciation of wounds, so as to give an accurate account of their effects in almost all parts of the body. But Hippocrates is the first author, at least extant, who treated of anatomy scientifically. This great writer, conscious of his noble and exalted genius, published many anatomical observations, which, though disjointed, and scattered here and there in his works, yet make up almost an entire body of anatomy, when collected together. He was followed by Democritus, Empedocles, Alcmaeon of Crotona, Aristotle, Galen, &c. Anatomy, however, made but slow, and almost imperceptible advances towards perfection, till the time of Andreas Vesalius, who was born at Bruseles in the year 1514. His superior genius, in conjunction with his indefatigable application and industry, soon raised him to such a pitch of anatomical knowledge, as rendered him at once the ornament of his own, and the admiration of future ages. This accurate anatomist was followed by Stephanus, Vicary, Gemini, Sylvius, Servetus, Columbus, Fabricius, Riolanus, Libavius, &c. who all contributed to the improvement of anatomy. In 1622, Caspar Afellius, professor of anatomy at Pavia, observed the lacteal vessels in the mesentery, which he describes as conveying the chyle to a large gland, seated in the center of the intestines. He, however, modestly declines the honour of this discovery, because he says these lacteals were known to Hippocrates, Erasistratus, and Galen. The celebrated Harvey, in the year 1628, published his discovery of the circulation of the blood, which was of the most importance to physic of any that was ever made, and acquired him an immortal name. Pecquer, in the year 1651, discovered the reservoir of the chyle, and the thoracic duct. And Rudbecks and Bartholine in 1650, and 1651, discovered the lymphatic vessels. Wharton, in 1655, discovered the lower salival ducts; and Steno the upper salival ducts, those of the palate, nostrils, and eyes, in 1661. Willis succeeded him, and published an accurate anatomy of the brain and nerves.

Anatomy is also greatly indebted to the accurate observations of Malpighius, who

died in 1694. This great anatomist made a vast number of discoveries in the lungs, brain, liver, spleen, glands, lymphatics, &c. by the help of the microscope. The celebrated Ruysch has happily elucidated the finer and more intricate part of the human machine, by means of injections. Other more late writers upon anatomy are Maurice, Hoffman, Cowper, Ridley, Bartholine, Keill, How, Morgagni, Valsalva, Pacchionus, Drake, Vercellonius, Santorini, Cheselden, Monro, Douglas, Heister, Winslow, &c.

ANATOMY, is also used, in a less proper sense, for the analyzing of compound bodies. See the article **ANALYSIS**.

ANATOMY of plants, is otherwise called dendranatomy. See the articles **PLANT** and **DENDRANATOMY**.

ANATRON, NATRON, or NATRUM, in natural history. See **NATRUM**.

Besides the salt commonly called by this name, some likewise used it to denote the scum found on the surface of the composition of glass, when in fusion; as also for the *terra sarrafenica*, and a nitrous juice, which concretes in vaults and other subterraneous places.

ANATRON is sometimes also used for a compound salt, made of quick lime, alum, vitriol, common salt, and nitre; and used as a flux to promote the fusion of metals. See the article **FLUX**.

ANAXIMANDRIANS, in the history of philosophy, the followers of Anaximander, the most antient of the philosophical atheists, who admitted of no other substance in nature but body.

ANBURY, among farriers, the same with ambury. See the article **AMBURY**.

ANCASTER, a town of Lincolnshire, near Lincoln, west longitude 30'. north latitude 52°. 50'.

ANCENIS, a town of France, in the province of Britany, west longitude 1°. 5'. north latitude 47°. 20'.

ANCESTORS, those from whom a person is descended in a strait line, the father and mother not included.

The law makes a difference between ancestors and predecessors, the first being applied to a natural person, as a man and his ancestors, and the latter to a body politic, as a bishop and his predecessors. We say likewise, a prince and his predecessors, to signify the kings that have reigned before; but we never say a king and his ancestors, unless he is by birth descended of his predecessors.

AN-

ANCESTREL, in law, something that relates to, or has been done by one's ancestors. Thus,

Homage ancestrel signifies homage performed by one's ancestors.

ANCHILOPS, in medicine, a small tumour in the great angle of the eye, frequently degenerating into an abscess, or fistula lacrymalis. See **FISTULA**.

Most authors use the terms anchilops and ægilops, in a synonymous sense. See the article **ÆGILOPS**.

ANCHOR, *ancora*, in maritime affairs, an extremely useful instrument, serving to retain a ship or boat in its place.

It is a very large and heavy iron instrument, with a double hook at one end, and a ring at the other, by which it is fastened to a cable.

It is cast into the bottom of the sea, or rivers, where taking its hold, it keeps ships from being drawn away by the wind, tide, or currents.

The parts of an anchor are: 1. The ring to which the cable is fastened. 2.

The beam, or shank, which is the longest part of the anchor. 3. The arm, which is that which runs into the ground.

4. The flouke or fluke, by some called the palm, the broad and peaked part, with its barbs, like the head of an arrow, which fastens into the ground. 5. The stock, a piece of wood fastened to the beam near the ring, serving to guide the fluke, so that it may fall right, and fix in the ground.

There are several kinds of anchors: 1. The sheet anchor, which is the largest, and is never used but in violent storms, to hinder the ship from being driven ashore. 2. The two bowers, which are used for ships to ride in a harbour. 4. The stream anchor. 5. The grapnel. The iron of which anchors are made, ought neither to be too soft nor too brittle; for, if the iron be brittle, the anchor is apt to break, and if it be soft, the anchor will bend. In order to give them a proper temper, it is the practice to join brittle with soft iron, and for this reason, the spanish and swedish iron ought to be preferred.

The shank of an anchor is to be three times the length of one of its flukes, and a ship of 500 tons, hath her sheet anchor of 2000 weight; and so proportionably for others smaller or greater, although Aubin observes, that the anchors of a large vessel are made smaller in proportion than those of a small one.

The anchor is said to be a-peak, when the cable is perpendicular between the hawse and the anchor. See **HAWSSES**.

An anchor is said to come home when it cannot hold the ship. An anchor is foul, when, by the turning of the ship, the cable is hitched about the fluke. To shoe an anchor, is to fit boards upon the flukes, that it may hold the better in soft ground. When the anchor hangs right up and down by the ship's side, it is said to be a cock bell, upon the ship's coming to an anchor.

The inhabitants of Ceylon use large stones instead of anchors, and in some other places of the Indies, the anchors are a kind of wooden machines loaded with stones.

Shoe for an ANCHOR. See **SHOE**.

ANCHOR is also used, in a more general sense, for any thing that holds fast another. Thus the sea-muscles are said to ride at anchor by a kind of threads, emitted out of their bodies and fastened to rocks and other bodies. See **MUSCLE**.

ANCHOR, in architecture, a sort of carving, something resembling an anchor. It is commonly placed as part of the enrichments of the bouldins of capitals of the tuscan, doric, and ionic orders, and also of the bouldins of bed mouldings of the doric, ionic, and corinthian cornices; anchors and eggs being carved alternately through the whole buildings.

ANCHOR, in heraldry, are emblems of hope, and are taken for such in a spiritual as well as in a temporal sense.

ANCHORAGE, or **ANCHORING-GROUND**, a place where a ship may cast anchor.

The best anchoring ground is stiff clay or hard sand; and the best place for riding at anchor, is where a ship is landlocked, and out of the tide.

ANCHORAGE, in law, is a duty taken of ships for the use of the port or harbour, where they cast anchor: for the ground there belonging to the king, no man can let fall anchor thereon, without paying the king's officers for so doing.

ANCHORALIS PROCESSUS, the same as the processus coracoides. See the article **CORACOIDES**.

ANCHORED, or **ANKERED**, in heraldry, is said of a cross, the four extremities of which resemble the floukes of an anchor. This cross resembles very much the cross moline, the whole difference between them consisting only in this, that the anchored cross is somewhat sharper at the

points than the moline. See **MOLINE**. **ANCHOVY**, in ichthyology, and commerce, a species of clupea, with the upper jaw longest. See the article **CLUPEA**. The anchovy is so like the common sprat, another species of clupea, that it is no wonder this fish is often pickled and sold under its name. See plate XVII. fig. 3. Anchovies are much esteemed in sauces; the common way of eating them being with oil, vinegar, &c.

ANCHUSA, in botany, a genus of the pentandria monogynia class of plants, the calyx of which is an oblong, cylindric, acute, perianthium, divided into five segments, and permanent; the corolla consists of a single petal; the tube is cylindric, and of the length of the cup; the limb is lightly divided into five segments, erectopate and obtuse; the opening is closed by five oblong, convex, prominent, and connivent squamulæ; there is no pericarpium: the cup becomes larger, and serves as a fruit, containing in its cavity four oblong, obtuse, and gibbous seeds.

ANCHYLOBLEPHARON, among physicians, denotes a cohesion of the eye-lids. In this disorder of the eye-lids, they sometimes cohere to each other, and sometimes to the globe of the eye itself. This is easily distinguishable from the slight glewing up of the eye-lids, from the small-pox, or other the like causes. This disorder is sometimes brought with an infant into the world, sometimes it comes upon adults by a fleshy excrescence from the angles of the eyes, and sometimes it happens from accidents, as blowing up of gun-powder, and the like. This is always dangerous, and difficult of cure, but most so when the eye-lids grow to the cornea. They are to be divided by a blunt-pointed pair of scissors, and when separated from each other, it must be tried whether they adhere to the eye; if they do, they must be separated with great caution with a blunt pointed scalpel; but there is here great danger of injuring the sight; when separated, they must be kept from touching one another, to prevent their cohering again, by lint, or a plate of lead.

ANCLAM, a town of Pomerania, in Germany, situated on the river Pene, in east long. 14°. and north latit. 54°. about forty-five miles north-west of Stetin.

ANCLE, *Talus*, and *Astragalus*, in anatomy. See the article **ASTRAGALUS**.

ANCLE luxated, in surgery. The ancle is subject to be luxated, either in running, in jumping, or even in walking; and that

in four directions, either inward or outward, backward or forward. When the ancle is luxated inward, the bottom of the foot is turned outward; and on the contrary, when it is luxated outward, the bottom of the foot is turned inward, which latter case is indeed much more frequent than the others. If it is dislocated forward, the heel becomes shorter, and the foot longer than it should be; and if backward, the contrary signs to these will appear. The ancle however can scarce possibly be luxated outwards, unless the fibula be separated from the tibia, or else quite broken, which may happen to the external ancle; nor is it at all uncommon for a luxation of the ancle to be attended with very grievous symptoms, especially when occasioned by some great external violence; nor can it indeed well happen otherwise, in this case, since the distortion of the foot must necessarily overstrain the adjacent tendons, ligaments, and nerves, and thence excite very violent pains, and other bad symptoms, or the veins and arteries may also be very easily lacerated, which will occasion a large extravasation of blood about the whole foot, which too often gives rise to a gangrene. It is, however, necessary to observe, that the ancle is not always luxated, after it has been violently strained by leaping or turning the foot on one side; for it sometimes happens, that the ancle is not dislocated on these occasions, but only the parts are violently contused and strained. The ancle, when truly luxated, is more or less difficult to be reduced, according to the violence of the force by which the accident was occasioned. The most ready way, however, of reducing a luxation of the ancle, according to Heister, is, to place the patient upon a bed, seat, or table, letting the leg and foot be extended in opposite directions by two assistants, while the surgeon replaces the bones with his hands and fingers in their proper situation. When the foot is by this means restored to its proper position, it is to be well bathed with oxycrate and salt, and then carefully bound up with a proper bandage. The patient must be enjoined to keep his bed for a considerable time, till the bad symptoms are gone, and the ancle has recovered its strength so far, as to bear the weight of the body, without any uneasiness or danger.

ANCOBER, or **RIO-COBRE**, a river on the coast of Guinea, in Africa.

ANCON,

ANCON, *ανκων*, in anatomy, the gibbous eminence, or flexure of the cubit, the middle of the eminence on which we lean, being the greatest of the two apophyses of the ulna, and the same with the olecranon. See the article **OLECRANUM**.

ANCONA, a sea-port town of Italy, situated on the gulph of Venice, in east longitude 15°. and north latitude 43°. 20'. It is the capital of a marquiseate of the same name, subject to the pope.

ANCONÆUS, in anatomy, the sixth muscle of the elbow; so called, as being situate behind the folds of the ancon.

It arises from the back part of the extremities of the humerus, passes over the elbow, and is inserted into the lateral and internal part of the cubitus, about three or four fingers breadth above the olecranon. Its use is to assist in extending the arm.

ANCONES, in architecture, the corners, or coins of walls, cross-beams, or rafters. Vitruvius calls the consoles, which are a sort of shouldering pieces, by the name ancones.

ANCONY, in mineralogy, denotes a bloom of iron fashioned into a flat bar, about three feet long, with a square rough knot at each end.

The process for bringing the iron to this state is this: they first melt off a piece from a sow of cast iron, of the proper size; this they first hammer at the forge into a mass of two feet long, and of a square shape, which they call a bloom; when this is done, they send it to the finery, where, after two or three heats and workings, they bring it to this figure, and call it an ancony. The middle part beat out at the finery is about three feet long, and of the shape and thickness the whole is to be, this is then sent to the chafery, and there the ends are wrought to the shape of the middle, and the whole made into a bar.

ANCYLE, *ανκυλη*, in antiquity, a kind of shield which fell, as was pretended, from heaven in the reign of Numa Pompilius. At which time likewise a voice was heard, declaring that Rome should be mistress of the world as long as she should preserve this holy buckler.

Authors are much divided about its shape: however it was kept with great care in the temple of Mars, under the direction of twelve priests, and lest any should attempt to steal it, eleven others were made so like as not to be distinguished from the sacred one. These ancylia were carried

in procession every year round the city of Rome.

ANCYLE, in surgery, a distortion of the joints, caused by a settlement of the humours, or a distention of the nerves; in which case remedies of a mollifying and relaxing nature are required. See the article **JOINT**.

ANCYLOGLOSSUM, *ανκυλογλωσσον*, among physicians, denotes a contraction of the ligaments of the tongue, hindering speech. This happens, either when the membrane which supports the tongue is naturally imperfect or of too hard a substance, or is occasioned by a preceding ulcer, and a hard cicatrix left under the tongue. It is to be cured only by manual operation by the surgeon.

The effect of the ancyloglossum is not only to hinder the use of speech, but in children it also disables them from sucking.

The cure is performed by a careful section of the frænum, so as not to hurt the nerves, or other vessels.

This operation is never to be performed, where the infant is able to thrust its tongue straight out of the mouth.

Fabricius ab Aquapendente complains severely on the officiousness of midwives, who, without ever examining the condition of the frænum, practise the operation promiscuously on all infants, from an opinion, that without it the child would never be able to speak. But, according to this author, there is scarce one child in 100,000 in whom this ligament needs any cutting at all.

ANCYLOMELE, a surgeon's crooked probe. See the article **PROBE**.

ANCYLOSIS, *ανκυλωσις*, in surgery, the same with ancylo. See **ANCYLE**.

ANCYROIDES, *ανκυροειδης*, among anatomists, the same with what is called coracoides. See the article **CORACOIDES**.

ANDABATÆ, *ανδαβαται*, in antiquity, a sort of gladiators, who mounted on horseback, or in chariots, fought hoodwinked, having a helmet that covered their eyes.

ANDALUSIA, the most south-west province of Spain, having Extremadura and new Castile on the north; and Granada, the straits of Gibraltar, and the Atlantic ocean on the south.

New **ANDALUSIA**, a province of Terra Firma, in south America, lying on the coast of the Atlantic ocean, opposite to the leeward islands, having the river Oroonoco on the west.

ANDAMAN, the name of some small islands, situated on the east side of the entrance

trance of the bay of Bengal, in east longitude 92° . and north latitude 15° .

ANDENES, an island in the north sea, upon the coast of Norway. It is only inhabited by fishermen.

ANDERLECHT, a fortress of the austrian Netherlands, about two miles south of Brussels.

ANDERNACHT, a city of Germany, situated on the lower Rhine, in east longitude 7° . and north latitude 50° . $25'$. about thirty miles south of Cologne.

ANDERO, a sea-port town of Spain, in the province of Biscay, about sixty miles west of Bilboa, situated in west longitude 4° . $30'$. and north latitude 43° . $20'$. Here the Spaniards build and lay up some of their men of war.

ANDES, a vast ridge of mountains, which runs almost the whole length of south America. They are esteemed the highest in the world, being covered with snow in the warmest climates, and from thence called the Sierras Nevada, or the snowy mountains.

ANDEUSE, a city of Languedoc, in France, situated in east longitude 3° . $40'$. and north latitude 43° . $45'$.

ANDOVER, a large market-town in Hampshire, situated about ten miles north-west of Winchester, in west longitude 1° . $30'$. and north latitude 51° . $20'$. It sends two members to parliament.

ANDRACHNE, in botany, a genus of the monoecia gynandria class of plants; the corolla of the male flower is formed of five emarginated slender petals, shorter than the cup; the female flower has no corolla; the fruit is a capsule containing three cells, with two obtuse trigonal seeds, roundish on one side, and angular on the other.

ANDREW, or *knights of St. Andrew*, an order of knights more usually called the order of the thistle. See the article **THISTLE**.

Knights of St. Andrew is also an order instituted by Peter the great of Muscovy, in 1698; the badge of which is a golden medal, on one side whereof is represented St. Andrew's cross, and on the other are these words: *Czar Pierre monarque de tout la Russie*.

This medal, being fastened to a blue ribbon, is suspended from the right shoulder.

St. Andrew's Cross, in heraldry, is a cross in form of the letter X. See the article **CROSS**.

St. Andrew's-Day, a festival of the christian church, celebrated on the thirtieth

of November, in honour of the apostle St. Andrew.

St. Andrew's, in geography, a city in the county of Fife in Scotland, situated on the german ocean, in west longitude 2° . $25'$. and north lat. 56° . $20'$. about thirty miles north-east of Edinburgh.

St. Andrews was formerly an archbishop's see, but at present is chiefly remarkable on account of its university.

St. Andrew's is also the name of a town of Carinthia in Germany, situated in east long. 15° . and north latit. 47° . about a hundred miles south of Vienna.

ANDRIA, *ανδρια*, in grecian antiquity, public entertainments first instituted by Minos of Crete, and, after his example, appointed by Lycurgus, at Sparta, at which a whole city, or a tribe, assisted. They were managed with the utmost frugality, and persons of all ages were admitted, the younger sort being obliged by the law-giver, to repair thither as to schools of temperance and sobriety.

ANDRIA, in geography, a city of Italy, in the kingdom of Naples, situated in east longitude 17° . and north latitude 41° . $6'$. It is a bishop's see.

ANDROGYNOUS, *ανδρογυνος*, in zoology, an appellation given to animals, which have both the male and female sex in the same individual. These are otherwise called hermaphrodites. See **HERMAPHRODITE**.

ANDROIDES, *ανδρειδης*, in mechanics, a human figure, which by certain springs, performs several external functions of a man. See the article **AUTOMATON**.

ANDROLEPSY, *ανδραληψια*, in grecian antiquity, an action allowed by the Athenians, against such as protected persons guilty of murder. The relations of the deceased were empowered to seize three men in the city or house, whither the malefactor had fled, till he were either surrendered, or satisfaction made some other way for the murder.

ANDROMACHUS's TREACLE, *andro-machi theriaca*, in pharmacy, &c. See the article **THERIACA**.

ANDROMEDA, in astronomy, a small northern constellation, consisting of twenty-seven stars, visible to the naked eye; behind Pegasus, Cassiopeia, and Perseus. See the article **PEGASUS**, &c.

ANDROMEDA, in botany, a genus of the decandria monogynia class of plants; the calyx of which is a very small acute coloured and permanent perianthium, cut into five segments; the corolla consists of a single petal, of an oval form, inflated and

and quinquesid; the fruit is a roundish capsule, containing five cells, in which are several roundish shining seeds.

ANDRON, *ἀνδρῶν*, in grecian antiquity, denotes the apartment in houses, designed for the use of men; in which sense, it stands opposed to gynæceum. See the article **GYNÆCEUM**.

ANDRONION, among antient physicians, a name given to troches invented by Andron.—They were made of balustines, birthwort, plumose alum, vitriol, myrrh, aloes, frankincense; and were reckoned good for deterging the callosities of ulcers.

ANDROPOGON, in botany, a genus of the polygamia monoecia class of plants, the calyx of which is a bivalve oblong, obtuse glume; the corolla is also a bivalve glume, smaller and thinner than the cup; there is no pericarpium; the seed, which is single, oblong, covered and armed with the arista of the flower, is included in the glumes of the calyx and corolla.

ANDROS, an island in the Archipelago, near the south end of Negropont.

ANDROSACE, in botany, a distinct genus of plants, the flower of which consists of one saucer-like petal, very wide at the mouth, and divided into five segments; and its fruit is a globose, unilocular capsule, containing a number of small oval or roundish seeds, affixed to a placenta. See plate XVIII. fig. 1.

This genus, which belongs to the pentandria monogynia class of Linnæus, takes its name from the relief it gives mankind; being aperitive, and good in the gout, dropy, and retention of urine.

ANDROTOMY, or **ANDRANATOMY**, the dissection of a human body, in contradistinction to zootomy. See **ZOOTOMY**.

ANDRYALA, in botany, a genus of the syngenesia polygamia æqualis class of plants, the common calyx of which is short, multifid, round and hairy: the compound flower is imbricated and uniform, with numerous and equal hermaphrodite corollulæ; the proper flower is monopetalous, ligulated, linear, truncated, and divided into five segments: there is no pericarpium; and the seed, which is single, oval, and crowned with down, has no other cover but the cup.

ANDUXAR, a city of Andalusia in Spain, situated on the river Guadalquivir, about thirty-two miles east of Corduba, in west long. 4°. and north latit. 37°. 50'.

ANECDOTE, *ἀνέκδοτον* in matters of literature, some fact relating to history, not

formerly published to the world, or generally known.

Anecdotes have something in them very alluring, especially when they regard persons of distinction: such is the insatiable thirst of mankind after knowledge! However, it is proper to remark, that few of the many pieces published under the title of anecdotes, truly deserve that name, as being filled with a multitude of facts and circumstances to be found in other writers.

ANECDOTES, *anecdota*, is also a name given to the works of the antients, which have never been published in print.

ANEE, in commerce, a measure for grain, used in some provinces of France.

Anee at Lyons, signifies also a certain quantity of wine, which is the load an ass can carry at once.

That load is fixed at eighty english quarts wine measure.

ANEGADA, one of the Caribbee islands, situated in west longitude 63°. 5'. and north latitude 18°.

ANELE, or **ANIL**, in our old statutes, names used for indigo. See **INDIGO**.

ANEMIUS, among chemists, an appellation given to a wind furnace used in making fierce fires for melting and distillation.

ANEMOMETER, among mechanical philosophers, an instrument contrived for measuring the strength of the wind. There are various kinds of anemometers: that of which Wolfius gives the structure, is moved by sails like those of a windmill. He experienced, he says, the goodness of it, and affirms that the inward structure may be preserved to measure even the force of running water, or that of men and horses when they draw. In the memoirs of the academy of sciences is described a new anemometer, which expresses on paper, not only the several winds that have blown during the space of twenty-four hours, but also the strength and velocity of each. For the description, construction, and representation of an anemometer. See the article **VELOCITY** and force of the **WIND**.

ANEMONE, **WIND-FLOWER**, in botany, the name of a distinct genus of plants. See the article **WIND-FLOWER**.

ANEMOSCOPE, according to Vitruvius's description, a machine shewing from what point of the compass the wind blows. Such is that at Buckingham-house, in London. See the article **WIND**.

This

This is done by means of an index moving about an upright circular plate, the index being turned by an horizontal axis, and the axis by an upright staff, at the top of which is the vane moved about by the wind.

Anemoscope denotes also an instrument invented to foretell the changes of the wind. Otto Guerick gave this name to a machine he invented, consisting of a little wooden man, which by rising and falling in a glass tube, shewed the change of the weather. But it has been discovered, that this was only an application of the common barometer. See **BAROMETER**.

ANETHUM, DILL, in botany. See the article **DILL**.

ANEURISM, or ANEURYSM, in surgery, a throbbing tumour, distended with blood, and formed by a dilatation or rupture of an artery.

Surgeons usually distinguish two kinds, the true and the spurious. A true aneurism has always a pulsation more or less, and is formed by a dilatation only of the artery either all round, or on one side of it. The spurious aneurism is when the artery being opened by a puncture, wound, erosion, or other external violence, extravasates the blood betwixt the muscles and integuments, the limb being thereby rendered livid and swelled. A true aneurism may likewise degenerate into one that is spurious, by a gradual dilatation of the artery, till by the bursting of the coats, the blood is either extravasated, or discharged freely from the wound.

Aneurisms may be also distinguished, from the situation of the arteries, into external and internal; the first affecting some external, the other an internal artery. Though aneurisms most frequently happen in the brachial artery, yet the disorder is not restrained to that part alone; for they may arise from an infinite number of cases, both external and internal, in all parts, where there are any arterial trunks or considerable branches distributed.

The cure of aneurisms differs according to their kind. A small one of the true species may be removed by diligation; that is, by a compress and bandage, or by an instrument adapted for the purpose. But if that method should not succeed, recourse must be had in this, as in large and spurious aneurisms, to incision.

ANGARIA, in roman antiquity, a kind of public service, imposed on the provin-

cials, which consisted in providing horses and carriages for the conveyance of military stores, and other public burdens.

ANGARIA is sometimes also used for a guard of soldiers, posted for the defence of a place.

ANGARIA, in a more general sense, is used for any kind of oppression, or services, performed through compulsion.

ANGEIOGRAPHY, or ANGIOLOGY, among anatomists, the description and history of the several vessels of the human body, as the arteries, veins, nerves, lymphatics, &c. See **ARTERY, VEIN, &c.**

ANGEIOGRAPHY, among antiquarians, denotes the description of the various utensils, weights, measures, &c. of the antients.

ANGEL, a name given to those spiritual, intelligent beings, who are supposed to execute the will of God, in the government of the world.

The existence of angels has been admitted in all religions. The Greeks and Latins acknowledged them under the name of genii or demons; and in the alcoran, we find frequent mention of them, the mahomedans assigning them different orders and degrees, and different employments both in heaven and earth. Though among the Jews in general, the existence of angels was believed (the Sadduces only excepted, who denied the existence of all spirits whatever; but God) yet they do not seem to have known the names of any angel before the babylonish captivity. Tobit, who is thought to have lived at Nineveh some time before that event, is the first who has called an angel by his name. He mentions Raphael; and Daniel, who lived sometime after Tobit, has taught us the names of Michael and Gabriel. As to the nature of angels, authors are not so unanimous as about their existence. The most universal opinion is, that they are of a spiritual, incorporeal nature; yet many of the old fathers imagined them to be corporeal, and capable of sensual pleasures. Nor are they better agreed concerning the time when angels were created. Some think that they were created at the same time as the heavens; the Hebrews conjecture that God created them upon the second day of the world; and finally, others have asserted, that they existed long before the sensible world.

As to their office or employment, some are said to preside over empires, nations, provinces, cities, and particular persons.

These

These latter are stiled guardian angels. Thus Michael is acknowledged to be the protector of the people of Israel; and in the New Testament, we read of saint Peter's angel who set him at liberty; and Jesus Christ enjoins us not to despise little ones, because their angels continually behold the face of God.

The number of angels is no where mentioned in scripture; but it is always represented as immensely great, and also that there is a subordination among them. Hence ecclesiastical writers make an hierarchy of nine orders of angels. See the article HIERARCHY.

But besides these, we read of evil angels, the ministers of God's wrath; as the destroying angel, the angel of death, the angel of Satan, and the angel of the bottomless pit. Thus God smote Sennacherib's army with the sword of the destroying angel; he slew David's subjects with the sword of the angel of death; and the angel of Satan buffeted St. Paul. The angel of the bottomless pit is the prince of devils, the same with the destroying angel. In general, good and bad angels are distinguished by the opposite terms of angels of light, and angels of darkness.

And to conclude, those angels that kept not their first estate, but fell from their obedience into sin, for which they were expelled the regions of light, and cast down into hell, to be reserved in everlasting chains under darkness, until the judgment of the great day, are called fallen angels.

ANGEL is likewise a title given to bishops of several churches. In this sense is St. Paul understood by some authors, where he says women ought to be covered in the church, because of the angels; and thus in the Revelations, *the seven stars are the angels*, that is, *bishops of the seven churches*.

ANGEL, in commerce, the name of an ancient gold coin in England, of which some are still to be seen in the cabinets of the curious. It had its name from the figure of an angel represented upon it. It was $23 \frac{1}{2}$ carats fine, and weighed four penny-weights. Its value differed in different reigns.

The French have also had their angels; but they are now out of use.

ANGEL-FISH, in ichthyology, a name by which some call the *squalus*, with no pinnæ ani, and the mouth situated in the top of the head. See SQUALUS.

VOL. I.

ANGELIC, or ANGELICAL, in a general sense, an epithet given to whatever belongs to, or partakes of the nature of angels. See the article ANGEL.

ANGELIC is also a denomination figuratively given to several things, on account of their superior excellence. Thus we read of an angelic life, angelic poem, angelic pills, &c.

ANGELIC HABIT. See the article HABIT.

ANGELICA, in botany, a genus of the pentandria digynia class of plants, the general umbel of which is roundish and multiple; the partial umbel, while in flower, is perfectly globose; the general involucre is composed of either three or five leaves; the partial involucre is small, and composed of eight leaves; the proper perianthium is small, and quinque-dentate; the general corolla is uniform; the single flowers consist each of five deciduous, lanceolated, and slightly crooked petals; the fruit is naked, roundish, angular, and separable into two parts: the seeds are two, of an oval figure, plain on one side, and convex or striated on the other.

Angelica is a simple much esteemed for its medicinal virtues, being reputed stomachic, cordial, alexipharmic, and of great use in pestilential fevers, in all contagious distempers, and the plague itself. But the virtues ascribed to it on this account, are somewhat too great. At present it is regarded little otherwise than as a carminative. It has been made an ingredient in many of our officinal compositions. The stalks make a very pleasant sweetmeat preserved with sugar, which is a very good way of taking angelica on many occasions.

Berry-bearing ANGELICA, *Aralia*. See the article ARALIA.

ANGELICA, in grecian antiquity, a celebrated dance performed at their feasts; so called, because the dancers were dressed in the habit of messengers.

ANGELICS, *angelici*, in church history, an antient sect of heretics, supposed by some to have got this appellation from their excessive veneration of angels, and by others from their maintaining that the world was created by angels.

ANGELICS, *angelici*, is also the name of an order of knights, instituted in 1191, by Angelus Flavius Comnenus, emperor of Constantinople.

Some will have this order, which still subsists in Italy, to have been much more antient, making Constantine its founder.

U

AN-

ANGELO, or **St. ANGELO**, a sea-port town of Apulia in Naples, situated on the gulph of Venice, in $16^{\circ} 25'$ east longitude, and $41^{\circ} 20'$ north latitude.

This is also the name of two other small towns in Italy, one situated in the kingdom of Naples, and the other in the province of Urbino.

ANGELOS, a fine city of Mexico, situated in 103° west longitude, and 19° north latitude, about seventy-five miles south-east of the city of Mexico.

ANGELOT, in the history of coins, a gold coin struck at Paris, while subject to the English, so called from the representation of an angel supporting the arms of England and France.

ANGER, *ira*, among moral philosophers, denotes a violent passion, or propensity, to take vengeance on the authors of some supposed injury done to the angry person. Mr. Hutcheson, having defined anger, a propensity to occasion evil to another, arising upon apprehension of an injury done by him, observes, that this violent propensity is attended generally, when the injury is not very sudden, with sorrow for the injury sustained, or threatened, and desire of repelling it, and making the author of it repent of his attempt, or repair the damage.

But besides these conditions, which are good, in some sort intended by men when they are calm, as well as during the passion, there is in the angry person a propensity to occasion misery to the offender, a determination to violence, even where there is no intention of any good to be obtained or evil avoided by this violence. And it is principally this propensity which we denote by the name anger, though other desires often accompany it.

Anger in scripture is often attributed to God, not that he is capable of those irregular motions which this passion produces, but because he punishes the wicked with the severity of a provoked father.

ANGERMANIA, a maritime province of Sweden; lying on the western shore of the Bothnic gulph.

ANGERMUND, a town of the dutchy of Berg in Germany, situated on the east side of the Rhine in $6^{\circ} 30'$ east longitude, and $51^{\circ} 10'$ north latitude. It lies about nine miles north of Dusseldorp; and is subject to the elector palatine.

ANGERONALIA, in antiquity, feasts celebrated at Rome in honour of Angerona, the goddess of silence and patience.

They were instituted, according to Macrobius, in consequence of a vow, when the people were afflicted with the quinzey, *angina*. They were held on the twenty-first of December.

ANGERS, a large city of France, capital of the province of Anjou, and situated on the river Loire, in $30'$ west longitude, and $47^{\circ} 30'$ north latitude. It is a bishop's see, and has a royal academy for the study of the law chiefly.

ANGHIERA, a town of the Milanese in Italy, situated on the east side of the Lago Maggiore, about forty miles west of Milan, in 9° east longitude and $45^{\circ} 40'$ north latitude.

ANGINA, in medicine, a violent inflammation of the throat, otherwise called quinzey. See the article **QUINZAY**.

ANGIOSPERMIA, in the linnæan system of botany, denotes those plants of the *didynamia* class, which have their seeds inclosed in a capsule, or seed-vessel. See the article **DIDYNAMIA**.

The angiospermia are distinguished from the gymnospermia, which have them so; because the angiospermia have them enclosed in a capsule, and adhering to a placenta placed in the middle of that capsule. The class of didynamia contains the labiated and personated plants. The angiospermia are the personated; the others the labiated kinds. See the article **GYMNOSPERMIA**.

ANGLE, *angulus*, in geometry, the inclination of two lines meeting one another in a point, and called the legs of the angle. Thus *ABC* (plate XVIII. fig. 2. N^o. 1.) is the angle made by the two lines *AB*, *BC* meeting in the point *B*, which is the vertex of the angle.

Angles are either rectilinear, or right-lined, as *ABC*, above referred to; or curvilinear, as *DEF* (fig. 2. N^o. 2.); or, lastly, formed of a strait line and a curve one, and thence called mixed, as *HIG*, *ibid*. N^o. 3.

Angles are of great use in almost every branch of mathematics. They make one half the subject of trigonometry, and have much to do in geography, astronomy, &c. Rectilinear angles, according to the greater or lesser degree of inclination, are either right, acute, or obtuse.

Right-ANGLE, is that formed between two lines, one of which stands upright, or perpendicularly, on the other, inclining no more one way than it does the other: such is the angle *ECB*; (*ibid*. N^o. 4.); for if *BC* be produced to *D*, *EB* will

Fig. 1. ANDROSACE.



Fig. 2. ANGLES.

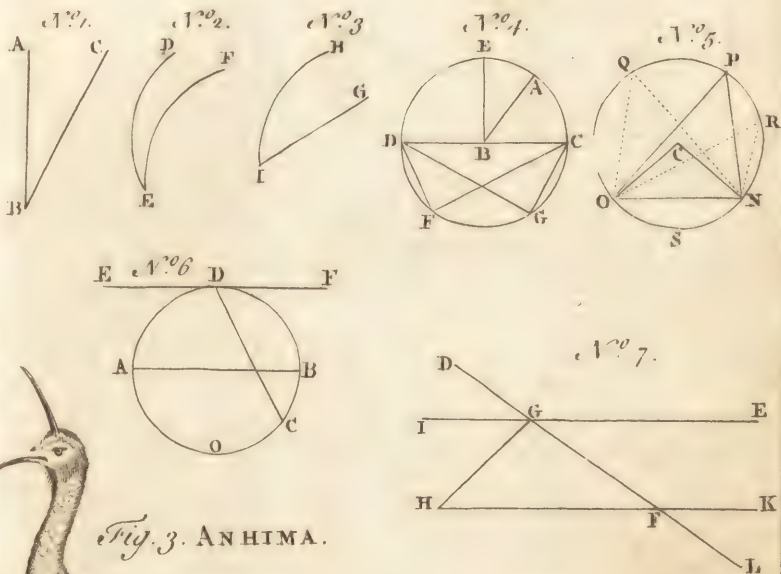


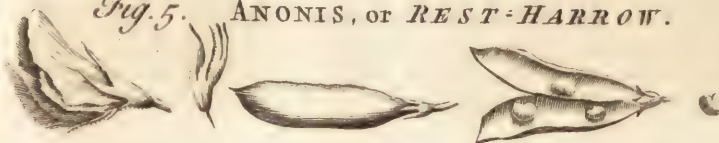
Fig. 3. ANHIMA.



Fig. 4. ANHINGA.



Fig. 5. ANONIS, or REST-HARROW.





be found to stand upright on DC, or to incline neither way. A right angle is said to be an angle of ninety degrees, because measured by a quadrant of a circle, or $\frac{360}{4} = 90$; so that a right angle, or an angle of ninety degrees, is the same thing.

Acute ANGLE, one whose vertex is acute, or sharp, being always less than a right angle: such is the angle ABC, *ibid.*

Obtuse ANGLE, one with a blunt or obtuse vertex, as ABD, which is always greater than a right angle, *ibid.*

Angles likewise receive other denominations from their different positions, and the relation they bear to the figures they are in, and to the lines which form them. Hence,

ANGLES in a semi-circle, those subtended by the diameter of that circle, as DFC, DGC, (*ibid.*) which are always right angles.

ANGLE at the center, that formed by two radii, or semi-diameters of a circle, as OCN, *ibid.* N^o. 5.

ANGLE at the circumference, or in a segment, that formed by two chords of a circle meeting at the circumference: such is OPN, (*ibid.*) which is only half of the angle at the center OCN, subtended by the same chord ON; or, which comes to the same thing, it is equal to half the arc OSN. Moreover, all angles in the same segment, and consequently subtended by the same chord ON, as OQN, OPN, ORN, are equal to one another.

ANGLE of a semi-circle, that formed by a diameter and the circumference of a circle, as BAO, (*ibid.* N^o. 6) which is less than a right angle, and yet greater than any rectilineal acute one.

ANGLE of a segment, that which a chord in a circle makes with the tangent at the point of contact: such are the angles EDC, FDC: the former being the angle of the greater segment, and the latter of the lesser segment, *ibid.*

ANGLE of contact, that which the tangent of a circle forms with its circumference, as EDA, (*ibid.*) which is less than any right-lined angle.

ANGLES are said to be adjacent or contiguous, which have one leg common to both, as DGI and DGE, (*ibid.* N^o. 7.) which taken both together are equal to two right angles.

Opposite, or vertical ANGLES, those formed by two lines crossing each other, as the

angles DGI, EGF, (*ibid.*) which are always equal.

An angle is also said to be opposite to the side that subtends it: thus GHF is to the side opposite GF.

Again, when one of the sides of a triangle is produced, as from F to K, (*ibid.*) the external angle GFK, is equal to the two internal angles FGH and FHG, which are said to be opposite to it.

Alternate ANGLES, the internal pairs of acute or obtuse angles, formed by a right line DL cutting two parallel right lines IE, HK (*ibid.*): such are EGF and GFH, both acute and equal; also the obtuse ones IGF and GFK, likewise equal.

Plain ANGLE. See the article PLAIN.

Spherical ANGLE, that formed by the intersection of two great circles of the sphere.

Solid ANGLE, that formed by the meeting of three or more plain angles, not being in the same plain, in one point: such is the angle of a dye, of a square box, or the like.

In regard to solid angles, it has been demonstrated, that the plain angles forming them, are always less than three hundred and sixty degrees, or four right angles.

For the other properties and appellations of angles, when combined in triangles, squares, polygons, circles, &c. see the articles TRIANGLE, SQUARE, &c.

For the sines, tangents, and secants of angles, see the articles SINE, TANGENT, and SECANT.

And, lastly, for the various denominations of angles, peculiar to different branches of mixt mathematics, as navigation, fortification, optics, mechanics, astronomy, &c. see the articles NAVIGATION, FORTIFICATION, &c.

ANGLE of incidence. See INCIDENCE.

ANGLE of reflection. See REFLECTION.

ANGLE of refraction. See REFRACTION.

ANGLE of vision. See VISION.

ANGLES of the eye, in anatomy, the same with the corners of the eye, called by anatomists *cantbi*. See CANTHI.

ANGLER, a person who practises the art of angling, whether as a diversion, or otherwise. See the article ANGLING.

The tackle necessary for an angler is various, according to the branch of the art he applies himself to. He must be equipt with variety of hooks, and a competent quantity of every sort; he must not be

without wax, silk, and a pair of scissors or pen-knife, a basket, or bag, and landing-net, plummets, shot, and floats of every kind, needles and thread, lines, hair, indian grass, variety of feathers, more particularly those taken from the neck of a mallard, the wing of a partridge, a capon's neck, the top of a plover, or the hackle of a red cock. He must likewise be furnished with twist, and bedding for dubbing his artificial flies; he must have a landing-hook, reels for his silk lines, a pouch or book for his hair lines, a convenient place wherein to repose his small craft, *viz.* flies, hooks, wax, shot, silk, &c. a bag for his worms, a tin box for his gentles.

When he takes his stand, he is to shelter himself under some bush, or tree, or stand so far from the brink of the river that he can only discern his float; by reason fish are timorous, and easily frightened. The best way of angling with the fly is down the river, and not up; neither need the angler ever make above half a dozen of trials in one place, either with fly or ground bait, when he angles for trout: by that time the fish will either offer to take, or refuse the bait and not stir at all.

The angling rod must be kept in a moderate state, neither too dry nor too moist, in the first case it will be brittle, in the other rotten. When pastes are used, it is proper to mix a little tow with them, and rub them over with honey; finally, a small anointing them with butter is of great use to keep them from washing off the hook. The eyes of any fish that is taken are an excellent bait, for almost any other kind of fish.

ANGLESEY, an island and county of north Wales, which sends one member to parliament.

ANGLICANÆ GUTTÆ, ENGLISH DROPS, in chemical pharmacy. See the article DROPS.

ANGLICANUS *sudor*, among physicians. See the article SUDOR.

ANGLICISM, in matters of stile, a manner of speech peculiar to the English language. See ENGLISH and LANGUAGE.

ANGLING, among sportsmen, the art of fishing with a rod, to which are fitted a line, hook, and bait. See ANGLER.

In angling the following rules are to be observed. 1. To place yourself so that your shadow do not at any time lie upon the water if shallow. 2. To angle in a pond near the ford where the cattle go to

drink, and in rivers, in such places as the fish you intend to angle for, usually frequent; as for breams, in the deepest water; for eels, under banks; for chub, in deep shaded holes; for perch, in scowrs; for roach, in the same places; for trouts, in quick streams.

The best times for angling are from April to October; for in cold stormy weather, or bleak easterly winds, the fish will not bite. The time of the day, in the warm months, is in the morning, about nine o'clock, and in the afternoon, between three and four. In order to attract the fish to the place intended for angling, it will be proper once in four or five days to cast in some corn boiled soft, garbidge, worms chopped to pieces, or grains steeped in blood, and dried; and if you fish in a stream, it will be best to cast in the grains above the hook.

The best way of angling with the fly is down the river; and in order to make the fish bite freely, be sure to use such baits as you know they are naturally inclined to, and in such manner as they are accustomed to receive them.

The several methods of angling for salmon, trout, carp, tench, perch, pike, dace, gudgeons, roach, flounder, &c. may be seen under the articles *Salmon FISHING*, *Trout FISHING*, &c.

ANGLO-SAXON, an appellation given to the language spoken by the English Saxons, in contradistinction from the true Saxon, as well as from the modern English. See SAXON and ENGLISH.

ANGOL, a city of Chili, in south America, situated in 78° west longitude, and 38° south latitude.

ANGOLA, a large maritime country on the south-west side of Africa, lying between 10° and 15° east longitude, and 5° and 16° south latitude.

The Portuguese have several colonies and considerable settlements on this coast, which does not hinder the other nations of Europe from driving a traffic in slaves with the natives, who are all negroes.

ANGON, in the ancient military art, a kind of javelin used by the French. They darted it a considerable distance. The iron head of this weapon resembled a flower-de-luce. It is the opinion of some writers, that the arms of France are not flowers-de-luce, but the iron point of the angon, or javelin of the antient French.

ANGOULESME, a city of France, situated about sixty-four miles south-east of Rochelle, in 10° east longitude, and 45°

40' north latitude. It is the capital of Angoumois. See the next article.

ANGOUMOIS, a province of France, bounded by Poitou on the north, by Limosin on the east, by Perigord on the south, and by Santoin on the west.

ANGOURA, or **ANCYRA**, a large populous city of Natolia, in asiatic Turkey, situated on the river Melus: east longitude 33° , north latitude $41^{\circ} 5'$.

ANGRA, the principal town of the island of Tercera, one of the Azores. See the articles **AZORES**.

ANGROGNA, a town of Piedmont, situated about seven miles west of Pignerol: east longitude 7° , north longitude $44^{\circ} 45'$.

ANGUILLA, in ichthyology, the name by which zoologists call the eel. See **EEL**.

ANGUILLA, in geography, one of the Caribbee-islands, subject to Great Britain, and situated in west longitude 63° , and north latitude $18^{\circ} 15'$.

ANGUINEAL, denotes something belonging to or resembling a snake, *anguis*. Hence we say, anguineal curve, hyperbola; verse, &c. See the articles **CURVE**, **HYPERBOLA**, &c.

ANGUINUM OVUM, among antient naturalists, a fabulous kind of egg, said to be produced by the saliva of a cluster of serpents, and possessed of certain magical virtues.

ANGUIS, in zoology, a genus of amphibious animals, with a round body, covered over with scales, without any scuta. This genus comprehends the *vipera*, *cæcilia*, *aspis*, *natrix*, *caudifera*, *cobra*, *cencbris*, *hydrus*, and *anguis asculapii*. See the articles **VIPER**, **CÆCILIA**, &c.

ANGULAR, in a general sense, denotes something relating to, or that hath angles. See the article **ANGLE**.

| | | |
|------------------|-------------------|----------|
| ANGULAR CAPITAL, | } $\frac{3}{8}$ { | CAPITAL. |
| ANGULAR COLUMN, | | COLUMN. |
| ANGULAR MOTION, | | MOTION. |
| ANGULAR NICHE, | | NICHE. |
| ANGULAR SECTION, | | SECTION. |

ANGUS, a shire or county of Scotland, bounded on the north by the shire of Merns; on the east, by the german ocean; on the south, by the frith of Tay, which divides it from the shire of Fife; and on the west, by the shire of Perth. This county, which for the most part is exceeding fertile, is otherwise called Forfarshire, from its capital Forfar.

ANGUSTICLAVIA, in roman antiquity, a tunica embroidered with little purple studs, according to most antiquarians; but Rubennius pretends that it was an

oblong band of purple woven in the tunica, resembling a nail. It was worn by the roman knights, as the laticlavia was by the senators.

ANHALT, a province of the circle of upper Saxony, in Germany, lying southward of the dutchy of Magdeburg.

ANHELATIO, or **ANHELITUS**, among physicians, a shortness of breath which happens to sound persons, but especially to valetudinarians, after violent exercise. See the article **ASTHMA**.

ANHIMA, in ornithology, a brasilian bird, resembling in some degree a crane; from which, however, as well as from all other birds, it is distinguished by a slender horn of a bony substance, inserted a little above the origin of its beak; its wings too have each a horn of this kind, growing out of the fore-part of the bone. It is longer than a swan, and mottled with black, grey, and white, with a very little yellow in some places. See plate XVIII. fig. 3.

ANHINGA, in ornithology, an extremely beautiful water-fowl of the Brasils, about the size of our common duck. Its beak is about three fingers breadth long, and has a row of hooked prickles both above and below; its neck is slender and long; its head and neck are yellowish; the upper part of the back is brown, spotted with yellow; and the breast, belly, and thighs, are of a silvery white. See plate XVIII. fig. 4.

ANIAN, a large maritime country on the eastern coast of Africa, lying between the equator and 12° north latitude, and between 40° and 50° east longitude.

ANIAN is also the name of a strait, supposed to lie between the north east of Asia, and north-west of America.

ANJENGO, a small town and factory on the malabar-coast, belonging to our east-india company.

ANIMA, among divines and naturalists, denotes the soul, or principle of life, in animals. See the article **SOUL**.

ANIMA, in a less proper sense, is used for the principle of vegetation in plants. See the article **VEGETATION**.

ANIMA, among chemists, denotes the volatile or spirituous part of bodies.

ANIMA, among physicians, a term sometimes given to highly refined medicines, or such as are possessed of an extraordinary virtue. Thus, we read of *anima rhabbari*, *anima pulmonum*, &c. the former denoting an extract of rhubarb, and the latter saffron, on account of its sup-

posed

posed efficacy in disorders of the lungs.

Thus also,

ANIMA hepatis, is a name by which some call *sal martis*, or salt of iron, on account of its efficacy in diseases of the liver.

ANIMA articularum, an appellation given to hermodactyls, as being good in disorders of the joints. See the article **HERMODACTYLS**.

ANIMA saturni, a white powder obtained by pouring distilled vinegar on litharge, of considerable use in enamelling. See the article **ENAMEL**.

ANIMA mundi, i. e. *soul of the universe*, is by some defined to be a certain, pure, ætherial substance, which being diffused through the mass of the world, informs, actuates, and unites the divers parts of it into one great, perfect, organical body. The *anima mundi* of the modern platonists, is an ætherial spirit which exists pure in the heavens, but pervading elementary bodies on earth, assumes something of their nature, and thence becomes of a peculiar kind.

Others define it to be an ignific virtue infused into the chaos, and disseminated through the whole frame for the conservation, nutrition, and vivification of it. The *anima mundi* is rejected by most of the modern philosophers, although many of them substitute something very much like it. Thus the cartesians have their subtle matter; some later philosophers have admitted fire; and others, an elastic spirit or medium diffused through all the parts of space.

ANIMADVERSION, in matters of literature, is used to signify, sometimes correction, sometimes remarks, upon a book, &c. and sometimes a serious consideration upon any point.

ANIMAL, in natural history, an organized and living body, which is also endowed with sensation: thus, minerals are said to grow or increase, plants to grow and live, but animals alone to have sensation.

The description, history, and classing of animals, make not only a considerable, but the most excellent part, of natural history, known by the name of zoology. See the article **ZOOLOGY**.

Different authors have established different divisions or families of animals; but the most natural one seems to be into quadrupeds, birds, fishes, amphibious animals, insects, and animalcules, visible only by the help of a microscope. See the articles **QUADRUPED**, **BIRD**, &c.

Generation of ANIMALS. See the article **GENERATION**.

ANIMALS, in heraldry, are much-used, both as bearings and supporters.

It is to be observed, that in blazoning animals must be interpreted in the best sense, and so as to redound to the greatest honour of the bearers. For example, the fox being renowned for wit, and likewise given to filching for his prey; if this be the charge of an escutcheon, we must conceive the quality represented to be his wit, and not his theft. All beasts must be figured in their most noble action; as a lion rampant, a leopard, or wolf passant, a horse running or vaulting, a greyhound coursing, a deer tripping, and a lamb going with a smooth pace. In like manner, every animal must be moving and looking to the right side of the shield, the right foot being placed foremost. These are the precepts given by Guillim, and yet we find that there are lions passant, couchant, and dormant, as well as rampant. See the articles **RAMPANT**, **PASSANT**, &c.

ANIMAL, used adjectively, denotes any thing belonging to, or partaking of, the nature of animals. Thus,

ANIMAL ACTIONS, those that are peculiar to animals. Such are sensation and muscular motion. See **SENSATION**, &c.

ANIMAL LIQUORS, a name given to the various fluids found in animal bodies, as blood, lymph, &c.

ANIMAL MOTION, the same with what is called muscular motion. See the article **MOTION**.

ANIMAL SECRETION, the separation of the several juices of the body from the blood. See the article **SECRETION**.

ANIMAL SPIRITS, a very fine subtle juice in animal bodies, supposed to preside over the animal actions.

Those who maintain the existence of animal spirits, for that is a point not yet determined, imagine them to be separated in the brain from the subtlest parts of the blood, and conveyed from thence by the nerves to all parts of the body, for the performance of every animal function.

Upon this precarious hypothesis, which, however, is of great antiquity, many elaborate theories have been formed; but anatomists are so little agreed, touching the nature of those spirits, that it is by no means safe to lay any stress upon them, in accounting for distempers, or investigating remedies.

ANIMAL SYSTEM denotes the whole class of

of beings endowed with animal life, otherwise called animal kingdom.

ANIMAL OECONOMY. See OECONOMY.

ANIMAL OIL. See the article OIL.

ANIMALCULE, an animal so minute in its size, as not to be the immediate object of our senses.

Animalcules are seen only by the assistance of microscopes, and are vastly more numerous than any other part of the animal creation; but the species, on a close examination, are found to be extremely few, in proportion to the number of individuals. The most obvious distinction among them is, that some have, and others have not tails; and that some have, and others have not visible limbs. According therefore to these characters, they are arranged by Dr. Hill under three classes, distinguished by the names of *gymnola*, *cercaria*, *arthronia*; the first containing those which have no visible limbs, nor any tail; the second, those which have tails; the third, those which have visible limbs.

Animalcules are discovered by the microscope in most liquors, as water, wine, vinegar, &c. in several chalybeate waters, in oats, barley, &c. and in the pustules of the itch.

Naturalists have many speculations concerning the origin, the multiplication, and propagation of animalcules; whether, *e. gr.* it be by putrefaction or by copulation, and the ordinary intercourse of the two sexes; concerning the mechanism of animalcules, the structure of their eyes, their different orders and economy, their number, minuteness, food, office, use, &c.

Some will have animalcules the cause of all diseases, particularly the itch, the plague, &c. Others assign them a nobler use, and suppose them intended to animate and enliven all nature, to be the principle of life, motion, generation, and the first stamina or rudiments of man himself. Thus some have asserted, that the animalcules, found in the male sperm of animals, were the future animals in miniature, and that by these generation was performed. See the article GENERATION of *Animals*.

As to the origin and propagation of animalcules, we find naturalists extremely at a loss, and therefore advancing conjectures and hypotheses, each more chimerical than the other. The system of putrefaction solves the difficulty quickly: but the supposition is unphilosophical,

and contrary to observation and analogy. Yet how such vast numbers of animals can be, as it were at pleasure produced, without having recourse to something like equivocal generation, is very difficult to say! To produce a million of living creatures in a few hours, by only exposing a little water in a window, or by adding to it a few grains of some seed, or leaves of a plant, seems difficult to believe. We therefore must suppose them to have been pre-existent.

Huygens imagines, that the animalcules in pepper or ginger water come thither out of the air, attracted by the spicy smell. But can we suppose that the effluvia of aromatic bodies, gross enough to affect our olfactory organs, can produce the like sensations in creatures many millions of times less than us? Ought not the odorous particles which affect them, to be proportional to their own size? Each corpuscle of the effluvia, *e. gr.* of pepper, may be many degrees bigger than the whole body of one of our animalcules; and instead of entering its nostrils, must knock it down, or even bury it under its load.

Harris is rather of opinion, that the eggs of some exceeding small insects, which are very numerous, may have been laid or lodged in the *plicæ* or *rugæ* of the coats of the grain, by some kinds that inhabit those seeds, as their proper places. For that insects of the larger kinds do frequently thus deposit their eggs, on the flowers and leaves of plants, is often experimented; and it is probable that the smaller or microscopical insects do the same. Now these being washed out of the seeds by their immersion in water, may rise to the surface, and there be hatched into these animals which we see so plentifully to abound there. Or, the surface of the water may arrest the straggling eggs of some microscopical insects, which before floated in the air, and being prepared for this purpose by the infusion of proper grain, or a due degree of heat, may compose so proper a nidus for them, that by the sun's warmth they may easily be hatched into living creatures, which may afterwards turn into flies of the same species with the animal parent.

But this is not enough, M. Malezieu has discovered some animalcules to be viviparous, and others oviparous. And Lewenhoeck and others pretend to have seen them in the very act of copulation. Others assure us they have seen eggs in
the

the bodies of some animalcules which are transparent; and that in others, eggs have appeared placed on the outside of the body; from which M. Malezien and M. Tobelot have observed young ones to issue alive; of the same kind and form with their fires and dams.

Indeed, considering the great variety of species of animalcules, it is not probable they should all propagate in the same manner. Mr. Harris observed a sort of green belts on some that were found in the scum of puddle water; and on further observation found these belts composed of globules, so like the roes or spawn of fishes, that he could not but fancy they served for the same use. After April he found many of them without any thing of the green belt; others with it very much, and that unequally; diminished, and the water filled with a vast number of small animals; which before he saw not there, and which he now looked on as the young animated fry, which the old ones had shed.

With regard to their structure and economy, animalcules are found of divers sorts; some formed like fishes, others reptile, others hexapedal; some horned; &c. In several kinds, however small, 'tis easy to discover the form of their mouths, their proboscides, horns, &c. the motions of their hearts, lungs, and other parts. In some of the animalcules observed by Lewenhoeck, he computed that three or four hundred of the smallest, placed contiguous to each other in a line, would only equal the diameter of an ordinary grain of sand. Now multiply 300 cubically, and the produce is 27,000,000 of animals, equal to one grain of sand, so that a cubical inch would contain 13,824,000,000,000, or almost 14 millions of millions.

The contemplation of animalcules has made the ideas of infinitely small bodies extremely familiar to us. A mite was antiently thought the limit of littleness; but we are not now surprized to be told of animals twenty-seven millions of times smaller than a mite. For such is the enormously little size of a kind of microscopical animalcule observed by M. Malezien, as he proves by a geometrical calculation of the augmentation which his glass makes. Hartsoeker has carried the matter farther. If the system of generation be true, which supposes that all animals were formed from the beginning of the world, and inclosed one within an-

other, and all of them in the first animals of each species, how minute must the animalcules now produced have been at the beginning! It appears by calculation, that the spawn of the first fish must have been to that of the last, as unity followed by thirty or forty thousand cyphers, is to unity.

Naturalists suppose another species or order of invisible animalcules, viz. such as escape the cognizance even of the best microscopes, and give many probable conjectures in relation to them. Reason and analogy give some support to the existence of infinite imperceptible animalcules. The naked eye, say some, takes in from the elephant to the mite; but there commences a new order reserved only for the microscope, which comprehends all these from the mite, to those twenty-seven millions of times smaller; and this order cannot be yet said to be exhausted, if the microscope be not arrived at its last perfection: and when it is arrived there, shall we then have attained the whole system of animals? It is nowise probable that the limits of nature should coincide exactly with the limits of our eye-sight, when assisted by the microscope. Who knows, says another, but the smallest and most imperceptible animals themselves have others less bred and nourished by them, and which bear the same proportion to them, that those bear to the animals they are produced on.

ANIMATED, or **ANIMATE**, in a general sense, denotes something endowed with animal life. See **ANIMAL**.

ANIMATED also imports a thing to be impregnated with vermin; for animalcules; in which sense, all terrestrial bodies whatever may be said to be animated. See the article **ANIMALCULE**.

ANIMATED MERCURY, a term used by Mr. Boyle to denote mercury which being impregnated with spirituous particles, may grow hot when mingled with gold.

ANIMATED NEEDLE, is one touched with a loadstone. See **NEEDLE** and **MAGNET**.

ANIMATED POWER, in mechanics, denoted a man, or other animal, in opposition to weights, &c.

ANIMATION signifies the informing an animal body with a soul. Thus the foetus in the womb is said to come to its animation, when it begins to act like a true animal, or after the female, that bears it, is quick. See the article **FOETUS**.

ANIMATION is also used figuratively, for the

the act of giving life and energy to a discourse.

ANIME, or **GUM ANIMÆ**, in natural history and pharmacy, a kind of gum, or rather resin, being a friable substance, inflammable, and soluble in oil. There are two kinds, the oriental and occidental: the oriental is a dry resin, brought in large casks, and of a very uncertain colour, some being greenish, some reddish, and some of the colour of myrrh.

The occidental is a yellowish white, resembling frankincense in colour. Both kinds are used in perfumes; and in medicine externally, for cold flatulent affections of the head, nerves, and joints; palsies, contractions, contusions, &c.

ANIME', in heraldry, a term used when the eyes of any rapacious creature are borne of a different tincture from the creature itself. We also say, incensed of such or such a tincture.

ANIMI DILQUIUM, fainting, or swooning, in medicine. See the articles **LIPOTHYMIA** and **SWOONING**.

ANINGA, in commerce, a root which grows in the Antilles islands, and is pretty much like the china plant. It is used by sugar bakers, for refining the sugar, and is more effectual and less dangerous than the sublimate of mercury and arsenic.

ANJOU, a county, or rather earldom of France, bounded by the province of Maine on the north, by Tourain on the east, by Poitou on the south, and by Britany on the west.

ANISCALPTOR, in anatomy, a name by which some call the *latissimus dorsi*. See the article **LATISSIMUS**.

ANISE, *anisum*, in the materia medica, a small seed, of an oblong shape, ending each way in an obtuse point, with a surface very deeply striated, and of a lax and brittle substance.

The plant which produces it is a species of the cuminum of Linnæus. See the article **CUMINUM**.

The best seed is what is fresh, full, free from mouldiness, and has a very strong smell. It is of a hot nature, good to expel wind out of the bowels and stomach, and is used by the confectioners in sugar-plums, of various denominations. There is extracted by distillation from anise-seed, an oil, which, as well as that expressed from it when bruised, answers all the purposes of the seed itself; and during the distillation, there comes off a water called anise-seed water, which is a celebrated

cordial and carminative.

ANKER, a liquid-measure at Amsterdam.

It contains about thirty-two gallons english measure.

ANNA, in geography, a city of Arabia Petrea, situated on the western shore of the river Euphrates, in $41^{\circ} 35'$ of east longit. and $33^{\circ} 30'$ north lat.

ANNALS, *annales*, in matters of literature, a species of history, which relates events in the chronological order wherein they happened. They differ from perfect history in this, that annals are a bare relation of what passes every year, as a journal is of what passes every day; whereas history relates not only the transactions themselves, but also the causes, motives, and springs of actions. Annals require nothing but brevity, history demands ornament. Cicero informs us of the origin of annals: to preserve the memory of events, the *pontifex maximus*, says he, wrote what passed each year, and exposed it on tablets in his own house, where every one was at liberty to read: this they called *annales maximi*; and hence the writers who imitated this simple method of narrating facts were called *annalists*.

ANNAMABOE, an english factory on the gold-coast, in Guinea, in Africa.

ANNAND, the capital of the shire of Anandale, in Scotland, situated upon a river of the same name, in 3° west longit. and $54^{\circ} 40'$ north latitude.

ANNAPOLIS, the capital of Maryland, a british colony in north America, in 78° west longit. and $39^{\circ} 25'$ north lat.

ANNATES, among ecclesiastical writers, a year's income of a spiritual living.

These were, in antient times, given to the pope throughout all christendom, upon the decease of any bishop, abbot, or parish-clerk, and were paid by his successor. In England, the pope claimed them first of such foreigners as he conferred benefices upon, by way of provision; but afterwards they were demanded of all other clerks on their admission to benefices. At the reformation they were taken from the pope, and vested in the king; and finally, queen Anne restored them to the church, by appropriating them to the augmentation of poor livings.

ANNEALING, or **NEALING**, the burning or baking glass, earthen-ware, &c. in an oven or furnace.

ANNEALING of glass, } See { **GLASS**.
ANNEALING of iron, } **IRON**.
ANNEALING of steel, } **STEEL**.

ANNECY, a town of the duchy of Savoy, situated

situated upon a lake of the same name, subject to the king of Sardinia; in 6° $10'$ east longitude, and 46° north latitude.

ANNEXATION, in law, a term used to imply the uniting of lands or rents to the crown.

ANNIHILATION, the act of reducing any created being into nothing.

Annihilation stands opposed to creation, and both are the works of omnipotence; for bodies naturally admit of changes and alterations in their forms, but not of annihilation.

It is objected against this notion of annihilation, that it requires an act; whereas, according to the opinion of some philosophers, annihilation must ensue upon God's merely ceasing to act.

Annihilation, in a moral sense, is sometimes used: thus, the capital of the south-sea is reduced to one half; and unless great care be taken, the male-practices of brokers will soon render another annihilation necessary.

ANNIS COMMUNIBUS. See the article **COMMUNIS ANNIS**.

ANNIVERSARY, the annual return of any remarkable day.

Anniversary days, in old times, more particularly denoted those days in which an office was performed for the souls of the deceased, or the martyrdom of the saints was celebrated in the church.

ANNO DOMINI, *i. e.* the year of our lord, the computation or time from our saviour's incarnation. The english is now inserted in the dates of all our deeds.

ANNOISANCE, in law, the same with nuisance. See the article **NUSANCE**.

ANNOMINATION, in rhetoric, the same with what is otherwise called *paronomasia*. See the article **PARONOMASIA**.

ANNONA, in roman antiquity, denotes provision for a year of all sorts, as of flesh, wine, &c. but especially of corn. *Annona* is likewise the allowance of oil, salt, bread, flesh, corn, wine, hay, and straw, which was annually provided by contractors for the maintenance of an army.

ANNONÆ PRÆFECTUS, in antiquity, an extraordinary magistrate, whose business it was to prevent a scarcity of provision, and to regulate the weight and fineness of bread.

ANNOTATION, in matters of literature, a brief commentary, or remark upon a book or writing, in order to clear up some passage, or draw some conclusion from it: thus the critics of the last age have made learned annotations upon all the classics.

ANNOTATION, among physicians, the beginning of a febrile paroxysm, when the patients used to shiver, to yawn, stretch, and be drowsy,

Annotation is also proper to hectic fevers, and happens when the patient, an hour or two after eating, feels an increase of heat, with a swifter pulse, but without any of the forementioned symptoms.

ANNUAL, in a general sense, an appellation given to whatever returns every year, or is always performed within that space of time: thus we say, the annual motion of the earth, annual plants, &c. See the article **EARTH**, &c.

ANNUAL EQUATION, in astronomy. See the article **EQUATION**.

ANNUAL, or **ANNUEL**, in the scottish law, any yearly revenue, or rent, payable at the two great terms, Whitsuntide and Martinmas.

ANNUITY, a yearly income arising from money, &c. and either paid for a term of years, or upon a life.

Annuities are said to be in arrears, when they are due either yearly or half yearly, and are unpaid for any number of payments. If, therefore, the amount of annuities in arrear, at simple interest, be wanted, let a be the annuity, r the rate of one pound *per annum*, m the amount thereof, and n the number of years; then a being the first year's amount, $a + 1 ar$ will be the amount of the second year, $a + 2 ar$

of the third, and $a + n - 1 \times ar$ will be the n year's amount: wherefore m , the sum of those amounts, will be equal to

$$na + \frac{n(n-1)}{2} ar. \text{ So that when any of}$$

these four quantities $m n a r$ are given, the value of the fourth may be easily found, as in the following table:

| Probl. | given | required. | Solution. |
|--------|-----------------|-----------|---|
| 1 | $a \ n \ r \ m$ | | $= na + \frac{n(n-1)}{2} \times ar$ |
| 2 | $m \ n \ r \ a$ | | $= \frac{2m}{2 + nr - r \times n}$ |
| 3 | $n \ n \ a \ r$ | | $= \frac{m - na \times 2}{n - 1 \times na}$ |
| 4 | $m \ r \ a \ n$ | | $= \frac{z + z \times 8mr}{2ra}$ |

Supposing $2a - ra = z$

But if the interest be compound, and $x =$

$x = 1 + r$ be equal to the principal and interest of one pound, at any given rate, then any three of the four quantities a, m, n, x being given, the fourth will be found as under :

| Probl. | given | required. | Solution. |
|--------|-----------|-----------|--|
| 1 | a, x, n | m | $m = \frac{x^n - 1 \times a}{x - 1}$ |
| 2 | m, x, n | a | $a = \frac{x^n - 1 \times m}{x^n - 1}$ |
| 3 | m, x, a | n | $n = \frac{Lx - 1 \times m + a - La}{Lx}$ |
| 4 | m, a, n | x | $x = -\frac{x^n + \frac{m}{a}x = \frac{m-a}{a}}$ |

L being the logarithm of $x-1$ and a .

If the discount in buying and selling annuities at simple interest be wanted : then since the amount of one pound for any time is to one pound as the amount of an annuity is to its present value, that is, as $1 + nr : 1 :: na + \frac{un-n}{2} ar :$

$$\frac{na + \frac{1}{2}nn - n \times ar}{1 + nr} = s. \text{ Therefore,}$$

$$a = \frac{2 + 2nr \times s}{2 + nr - r \times n}$$

$$na - s \times 2$$

$$r = \frac{2s - an + a \times n}{2sr + ra - 2a = z.}$$

$$\frac{z + 2z + 8sar}{2ra}$$

But when it is compound interest :

$$s \text{ will be equal } a - \frac{a}{x^n \div x - 1}$$

$$a = \frac{x^n \times x - 1 \times s}{x^n - 1}$$

$$n = \frac{La - Lx + s - sx}{Lx}$$

$$x = \frac{a}{s} \text{ And if } n \text{ be supposed to be in-}$$

finite, a being the annual rent, s will be equal to $sx - a$. If then it is required to find how many years purchase, at com-

pound interest, any annuity is worth, n will be equal to $\frac{I}{x-1}$, and $x = \frac{n-1}{n}$

As to the doctrine of annuities upon lives, founded upon bills of mortality, see Dr. Halley's Discourse in the Philosophical Transactions, De Moivre's treatise, and the article LIFE.

There are several differences in law between an annuity and a rent ; every rent is issuing out of lands, but an annuity charges only the granter, his heirs, &c. also no action lies for an annuity but the writ of annuity ; but for the recovery of rent, the same remedy lies as for lands.

ANNULAR, in a general sense, something in the form of, or resembling, a ring. Hence,

ANNULAR, in anatomy, is an appellation given to several parts of the body : thus, the annular cartilage is the second cartilage of the larynx ; annular ligament, that which encompasses the wrist, and binds the bones of the arm together ; annular process, or protuberance, a part of the medulla oblongata. See the articles CARTILAGE, LIGAMENT, &c.

ANNULAR is also a peculiar denomination of the fourth finger commonly called the ring-finger.

ANNULET, in architecture, a small square member in the doric capital, under the quarter-round.

Annulet is also a narrow flat moulding, which is common to divers places of the columns, as in the bases, capitals, &c. It is the same member which Vitruvius calls a fillet ; Palladio, a listel or cincture ; Scamozzi and Mr. Brown, a supercilium, list, tinea, eye-brow, square, and rabbit.

ANNULET, in heraldry, a mark of distinction which the fifth brother of a family ought to bear in his coat of arms.

The hieroglyphic of the annulet is very various : some of the antients used it to denote servitude ; the romans represented by it liberty and nobility. It is an emblem of secrecy, if it have a seal ; and of love, if the cypher, the face, or the arms of the person beloved are engraved upon it.

ANNULLING, a term sometimes used for cancelling, or making void, a deed, sentence, or the like.

ANNUNCIADA, ANNUNTIADA, or ANNUNTIATA, an order of knighthood in Savoy, first instituted by Amadeus I. in the year 1409 ; their collar was of fifteen links,

links, interwoven one with another, in form of a true lover's knot, and the motto F. E. R. T. signifying *fortitudo ejus Rhodum tenuit*. Amadeus VIII. gave the name *annunciada* to this order, which was formerly known by that of the knot of love, changing, at the same time, the image of St. Maurice, patron of Savoy, which hung at the collar, for that of the Virgin Mary; and instead of the motto abovementioned, substituting the words of the angel's salutation.

ANNUNCIADA is also the title of several religious orders, instituted at different times, and at different places, in honour of the annunciation. See the next article.

ANNUNCIATION, the tidings brought by the angel Gabriel to the Virgin Mary, of the incarnation of Christ.

Annunciation is also a festival, kept by the church on the 25th of March, in commemoration of these tidings: it is of very great antiquity.

In the romish church, on this feast the pope performs the ceremony of marrying or cloystering a certain number of maidens, who are presented to him in the church della Minerva, clothed in white serge, and muffled up from head to foot: an officer stands by, with purses containing notes of fifty crowns for those who make choice of marriage, and notes of an hundred for those who choose the veil.

Annunciation is likewise a title given by the Jews to part of the ceremony of their passover.

ANODYNE, in pharmacy, a term applied to medicines which mitigate pain.

Anodynes are of two kinds; the first proper, called also paretotics; the second improper, because they rather stupify than alleviate, and are known by the name of hypnotics and narcotics. See the article **HYPNOTICS**, &c.

Among anodynes may be reckoned all relaxing remedies, diluters, and medicines, which, by any means, destroy acrimony, or expel wind, together with the compound medicines of the shops, which pass under this name; such is the anodyne balsam made of castile soap, opium, camphire, saffron, and spirit of wine, accounted excellent in allaying the tortures of the gout, and in obstructions of the urinary passages.

ANOMALISTICAL YEAR, in astronomy, the time that the earth takes to pass through her orbit: it is also called the periodical year,

The space of time belonging to this year is greater than the tropical year, on account of the precession of the equinoxes. See the article **PRECESSION**.

ANOMALOUS, in a general sense, is applied to whatever is irregular, or deviates from the rule observed by other things of the like nature.

ANOMALOUS VERES, in grammar, such as are not conjugated conformably to the paradigm of their conjugation: they are found in all languages; in latin the verb *lego* is the paradigm of the third conjugation, and runs thus, *lego, legis, legit*; by the same rule it should be *fero, feris, ferit*, but we say *fero, fers, fert*; *fero* then is an anomalous verb. In english the irregularity relates often to the preter tense, and passive participle; for example, *give*, were it formed according to rule, would make *gived* in the preter tense, and passive participle; whereas, in the former, it makes *gave*, and in the latter *given*.

ANOMALY, in grammar, that quality in words which renders them anomalous. See the preceding article.

ANOMALY, in astronomy, an irregularity in the motion of the planets, whereby they deviate from the aphelion or apogee; which inequality is either mean, excentric, or coequate and true.

Mean ANOMALY, in the old astronomy, is the distance of a planet from the line of the apses, according to its mean motion: thus, if E S D (plate XIX. fig. 1. n°. 1.) be the sun's orbit, A M N B the ecliptic, the earth at T, the sun at S, and A B the line of the nodes; then is the angle A T M; or the arch A M, the sun's mean anomaly.

But, in the new astronomy, where a planet, at P, describes an ellipsis A P B A (ibid. n°. 2.) about the sun, situated in the focus S, the mean anomaly is the arch, or angle, or trilinear area A S P, contained under the line of the apses A B (*viz.* the transverse axis) and the line S P, which is proportional to the time. Again, drawing Q P H perpendicular to A B, and S F perpendicular to the radius Q C, continued, the mean anomaly will be represented by the trilinear circular area A Q S, or by the arch A Q + S F; as is demonstrated by astronomers.

Excentric ANOMALY, in the new astronomy, is an arch A Q of the excentric circle A Q B, terminated by A B, and by the line Q H, drawn through the centre

centre of the planet P, perpendicular to A B.

Coequate or true ANOMALY is the distance of the sun from its *apogæum*, or of a planet from its *aphelium*, where it is seen from the sun; that is, it is the angle A S P at the sun, under which the planet's distance from the *aphelium* appears. For a farther account of anomaly, consult Gregory, Keil, &c.

ANOMOEANS, in church-history, ancient heretics, who asserted, that the Son was of a nature different from, and in nothing like to, that of the Father. This was the name by which the pure arians were distinguished, in contradistinction to the semi-arians, who acknowledged a likeness of nature in the Son, at the same time that they denied, with the pure arians, the consubstantiality of the word. The semi-arians condemned the anomœans in the council of Seleucia; and the anomœans in their turn condemned the semi-arians in the council of Constantinople.

ANOMORHOMBOIDIA, in natural history, a genus of crystalline spars, of no determinate form, easily fissile, but cleaving more readily in an horizontal than in a perpendicular direction, their plates being composed of irregular arrangements of short and thick rhomboidal concretions. See the article SPAR.

ANONA, in botany, a genus of plants, belonging to the *polyandria-polygynia* class of Linnæus: the perianthium is composed of three cordated, hollowed, and acuminate leaves: the corolla consists of six cordated sessile petals, three alternately interior and smaller: the stamina are scarce visible, but the antheræ are numerous: the fruit is a large berry, of an oval figure, covered with a squamose punctuated bark: the seeds are numerous, hard, of an oblong figure, and are placed circularly.

ANONIS, REST-HARROW, in botany, the name of Tournefort, for the *Ononis* of Linnæus. See the article *ONONIS*, and plate XVIII. fig. 5.

ANONYMOUS, something that is nameless, or of which the name is concealed. It is a term usually applied to books which do not express the author's name, or to authors whose names are unknown.

ANONYMOUS, in anatomy, an appellation given to parts newly discovered, and consequently without any proper names: thus the annular cartilage of the throat, known

at present by the name *cricoides*, was formerly called anonymous.

ANOREXY, in medicine, a loathing of meat, or want of appetite.

An anorexy is occasioned either from an ill disposition of the stomach, or a redundancy of humours. The cure is different, according to the cause, both which are treated of under the article NAUSEA.

ANOUT, a small island in the Schager-rack, or that part of the sea of Denmark which has Norway on the north, Jutland on the west, Sweden on the east, and the isle of Zealand on the south; it lies in 13° east longit. and 56° 36' north lat.

ANSÆ, in astronomy, the parts of saturn's ring, which are to be seen on each side of the planet, when viewed through a telescope, and the ring appears somewhat open. They are so called because they are like handles to the body of the planet. See the article SATURN.

ANSE, a small town of France, in the Lyonnais, four leagues north of Lyons.

ANSEL-WEIGHT, the same with *uncel-weight*. See the article *AUNCEL*.

ANSER, in the linnæan system of zoology, an order of birds, distinguished by having their beaks dentated in the manner of a saw, and the feet formed for swimming. Of this order we have the following genera, *viz.* 1. The pelican. 2. The anas, or duck-kind. 3. The mergus. 4. The alca. 5. The colymbus, or diver-kind. 6. The larus, or gull-kind, &c. See the articles *PELICAN*, *ANAS*, &c.

Anser is, more particularly, used for the common goose. See the article *GOOSE*.

ANSER, in astronomy, a star of the fifth or sixth magnitude, in the milky-way, between the swan and eagle.

ANSES, in astronomy, the same with *anser*. See the article *ANSÆ*.

ANSLO, a sea-port town of Norway, and province of Aggerhuys, situated in 10°. 12' east long. and 59° 30' north lat.

ANSPACH, or OHNSPACH, a city of Germany, and circle of Franconia, situated in 10° 36' east longitude, and 49° 22' north latitude.

It is the capital of the marquisate of Anspach, of which family was the late queen Caroline.

ANSPESSADES, in the French armies, a kind of inferior officer in the foot, below the corporals, but above the common centinels. There are usually four or five of them in a company.

ANSTRUTHER EASTER and WESTER,
TWO

two royal burghs of Scotland, situated on the south-east coast of the county of Fife, in $2^{\circ} 25'$ west longitude, and $56^{\circ} 20'$ north latitude.

ANSWER, the reply made to a question.

To answer for a man, in a commercial sense, signifies to be his surety.

ANSWER, in law. See **REJOINDER**.

ANT, *formica*, in zoology, a well known insect, much celebrated for its industry and oeconomy.

The ant makes a distinct genus of insects, of the order of the *hymenoptera*, or those with membranaceous wings; and is distinguished from the other genera of this order, by having an erect squama, or scaly body, placed between the thorax and abdomen.

Ants are all furnished with four wings, excepting the males, as they are called, or those of no sex, which have none at all. Of this genus we have the following species in England: 1. A small blackish ant. 2. A small reddish brown ant. 3. A middle-sized black ant. 4. A middle-sized reddish ant. 5. The great ant, or horse ant, also known by the name of *bippomyrmex*.

ANT-BEAR, in zoology. See the article **MYRMECOPHAGA**.

ANTA, in the ancient architecture, a square pilaster, placed at the corners of buildings.

Anta is used by M. Le Clerc for a kind of shaft of a pillar, without base or capital, and even without any moulding.

ANTAGONIST, *antagonista*, denotes an adversary, especially in speaking of combats and games.

ANTAGONIST MUSCLES, in anatomy, those which have opposite functions, as flexors and extensors, abductors, and adductors, &c.

ANATANACLASIS, in rhetoric, a figure which repeats the same word; but in a different sense, as, *dum vivimus, vivamus*.

ANTARCTIC, in a general sense, denotes something opposite to the arctic, or northern pole. Hence

Antarctic circle, in geography and astronomy, is one of the lesser circles of the sphere, and distant only $23^{\circ} 30'$ from the south pole, which is likewise called antarctic, for the same reason.

ANTARES, a star of the first magnitude, otherwise called the scorpion's heart. See the article **SCORPION**.

ANTE, in heraldry, denotes that the

pieces are let into one another in such form as is there expressed, as, for instance, by dove-tails, rounds, swallows tails, or the like.

ANTEAMBULONES, in roman antiquity, servants who went before persons of distinction, to clear the way before them. They used this formula, *Date locum domino meo*; -i. e. make room, or way, for my master.

ANTECEDENT, in general, something that goes before another, either in order of time or place.

ANTECEDENT DECREE, among schoolmen, is a decree preceding some other decree, or some action of man, or the prevision of that action. It is much disputed, whether predestination be a decree antecedent or subsequent to faith.

Antecedent will, or desire, is that which in God precedes another will or desire, or some knowledge or prevision. But it is to be remarked, that these terms are applied to God only in respect to the order of nature, and not to an order of succession.

ANTECEDENT, in grammar, the word to which a relative refers: thus, *God whom we adore*, the word *God* is the antecedent to the relative *whom*.

ANTECEDENT, in logic, is the first of the two propositions in an enthymema. See the article **ENTHYMEME**.

ANTECEDENT, in mathematics, is the first of two terms of a ratio, or that which is compared with the other, as in the ratio of 2 to 3, or *a* to *b*, 2 and *a* are each antecedents.

ANTECEDENT SIGNS, in medicine, such as are observed before a distemper is so formed as to be reducible to any particular class, as a bad disposition of the blood, which precedes an infinite number of diseases.

ANTECEDENT TERM, in mathematics, the first one of any ratio: thus, if the ratio be *a* : *b*, *a* is the antecedent term.

ANTECEDENCE, *antecedentia*, in astronomy, an apparent motion of a planet towards the west, or contrary to the order of the signs, *viz.* from taurus towards aries, &c.

ANTECEDENCY, or **ANTECEDENCE**, in a general sense, denotes the property or prerogative of being antecedent. See the article **ANTECEDENT**.

ANTECESSOR, one that goes before. It was an appellation given to those who excelled in any science: Justinian applied it

it particularly to professors of civil law ; and in the universities of France, the teachers of law take the title *anteceffores* in all their theses.

ANTECHAMBER, or ANTICHAMBER. See the article **ANTICHAMBER**.

ANTECHRIST. See the article **ANTI-CHRIST**.

ANTECURSORES, in the roman armies, a party of horse detached before, partly to get intelligence, provisions, &c. and partly to chuse a proper place to encamp in. These were otherwise called *anteceffores*, and by the Greeks *prodromi*.

ANTEDATE, among lawyers, a spurious or false date, prior to the true date of a bond, bill, or the like. See **DATE**.

ANTEDILUVIAN, whatever existed before Noah's flood : thus, the generations from Adam to Noah are called the antediluvians. There are great disputes among philosophers about the form, constitution, figure, and situation of the antediluvian earth. Dr. Burnet contends that it was only a hollow crust, with an uniform equable surface, without mountains and without seas, and in all respects different from what we now find it to be. Dr. Woodward undertakes to prove that its appearance was the same as at present ; that it had the same position in respect of the sun, and consequently the same vicissitudes of seasons : and Mr. Whiston imagines, that the chaos, of which our earth was formed, had been the atmosphere of a comet ; that the annual motion of the earth began as soon as it assumed a new form ; but that the diurnal motion did not take place till the fall of Adam ; that before the deluge the year began at the autumnal equinox ; that the orbit of the earth was a perfect circle : and that the solar and lunar years were the same, each consisting of just three hundred and sixty days. The state of the antediluvian philosophy has likewise been the subject of much debate among authors.

ANTEGO, one of the Caribbee islands, in the Atlantic or American ocean, situated in $61^{\circ} 30'$ west longitude, and $17^{\circ} 30'$ north latitude. It is about twenty miles long, and as many broad.

ANTEJURAMENTUM, by our ancestors called *juramentum calumnie*, an oath which antiently both accuser and accused were to take before any trial or purgation.

The accuser was to swear that he would prosecute the criminal ; and the accused

to make oath, on the day he was to undergo the ordeal, that he was innocent of the crime charged against him.

ANTELOPE, in zoology, a species of goat, otherwise called *gazella*. See the article **GAZELLA**.

ANTENCLEMA, in rhetoric, called by the Latins *relatio*, is when the fault is imputed upon any misfortune happening, to the person to whom it happened : thus, Orestes blamed his mother, Horatius his sister, and Milo blamed Clodius.

ANTENNÆ, in the history of insects, slender bodies with which nature has furnished the heads of these creatures ; being the same with what in english are called horns, or feelers. See **HORN**.

ANTEPAGMENTA, in the antient architecture, the jambs of a door. They are also ornaments, or garnishings, in carved work, of men, animals, &c. made either of wood or stone, and set on the architrave.

ANTEPENULTIMA, in grammar, the third syllable of a word from the end, or the last syllable but two. The Greeks put the acute accent upon the antepenultima ; and the Latins, when the penultima is to be pronounced short, put it upon the antepenultima, as in the word *dominus*.

ANTEPREDICAMENTS, among logicians, certain preliminary questions, which illustrate the doctrine of predicaments and categories. They are so called because Aristotle has placed them before the predicaments, in order to treat that subject afterwards without interruption.

ANTEQUIERA, a town of Granada, in Spain ; situated in west longitude $4^{\circ} 40'$, and north latitude $36^{\circ} 40'$. about twenty-five miles north of Malaga.

ANTERIOR, or ANTERIOUR, denotes something placed before another, either with respect to time or place.

ANTESIGNANI, in the roman armies, soldiers placed before the standards, in order to defend them, according to Lipsius ; but Cæsar and Livy mention the antesignani as the first line, or first body, of heavy-armed troops. The velites, who used to skirmish before the army, were likewise called antesignani.

ANTESTATURE, in fortification, a small retrenchment made of palisadoes, or sacks of earth, with a view to dispute with an enemy the remainder of a piece of ground. This term is grown obsolete.

- lete. See the article RETRENCHMENT.
- ANTHELIX**, in anatomy, the inward protuberance of the external ear, being a semicircle within, and almost parallel to the helix. See the article **HELIX**.
- ANTHELMINTICS**, among physicians, medicines proper to destroy worms. See the article **WORMS**.
- ANTHEM**, a church-song performed in cathedral service by choristers, who sung alternately. It was used to denote both psalms and hymns, when performed in this manner. But at present, anthem is used in a more confined sense, being applied to certain passages taken out of the scriptures, and adapted to a particular solemnity.
- ANTHEMIS**, in botany, the name used by Linnæus for the chamæmile of other writers. See the article **CHAMÆMILE**. This is also the name by which some writers call the buphtalmum or ox-eye. See the article **BUPHTALMUM**.
- ANTHERÆ**, among botanists, denote the little roundish or oblong bodies, on the top of the stamina of plants. See the article **STAMINA**. The anthera is the principal part of the male organ of generation in plants, answering to the *glans penis* in animals. It is tumid and hollow, containing a fine powder called *farina fecundans*. See **PLANT. GENERATION**, **FARINA**.
- ANTHERICUM**, in botany, the name by which Linnæus calls the phalangium or Tournefort. See **PHALANGIUM**.
- ANTHEPHORIA**, in antiquity, a sicilian festival, instituted in honour of Proserpine. Another solemnity of this kind seems to have been observed at Argos, in honour of Juno.
- ANTHESTERIA**, in grecian antiquity, festival celebrated in the spring by the ancient Athenians, in honour of Bacchus, during which the masters feasted their slaves, as the Romans did in the time of the Saturnalia. See **SATURNALIA**. It was usual, during these feasts, to ride in chariots, and pass jests upon all that passed by.
- ANTHESTERION**, in ancient chronology, the sixth month of the athenian year, answering to the latter part of our November, and beginning of December.
- ANTHOCEROS**, in botany, a genus of mosses, without any flower-petals or stamina; in that of which there is a single, very long and dilated anthera, springing from the base of the cup. The female flower is sometimes found on the same plant with this anthera; and sometimes on a different one. It is monophyllous, divided into six patent segments, and commonly contains three roundish seeds lodged in its bottom.
- ANTHOLOGION**, the title of the service book used in the greek church. It is divided into twelve months, containing the offices sung throughout the year, on the festivals of our saviour, the virgin, and other remarkable saints.
- ANTHOLOGY**, *anthologia*, a discourse of flowers, or of beautiful passages from any authors.
- ANTHOLOGY** is also the name given to a collection of epigrams taken from several greek poets.
- ANTHOLYZA**, in the linnæan system of botany, makes a distinct genus of plants, the flower of which consists of one tubular petal; and its fruit is a roundish capsule, consisting of three valves, and divided into three cells, containing a number of triangular seeds. This genus belongs to the *triandria monogynia* class, and is comprehended among the gladioli by other botanists.
- ANTHONY**, or *Knights of St. ANTHONY*, a military order, instituted by Albert duke of Bavaria, Holland, and Zealand, when he designed to make war against the Turks in 1382. The knights wore a collar of gold made in form of a hermit's girdle, from which hung a stick cut like a crutch, with a little bell, as they are represented in St. Anthony's pictures.
- St. ANTHONY'S FIRE**, a name sometimes given to the erysipelas. See **ERYSIPELAS**.
- ANTHORISMUS**, in rhetoric, denotes a contrary description or definition of a thing, from that given by the adverse party.
- ANTHOSPERMUM**, in botany, a genus of plants, by Pontedera called *tournefortia*, and belonging to the *polygamia dioecia* class of Linnæus. It is male and female, in different plants, and some are hermaphrodites. The androgynous flower is of one leaf, with two pistils and four stamina, with the germen below the flower. The male flowers are the same with these, wanting only the pistils and germen. The female flowers have the pistils and germen, but want the stamina. Pontedera describes the fruit to be roundish, and full of corners, having eight oblong seeds, lying two and two together.
- ANTHOANTHUM**, in botany, a genus of plants, the flower of which is a bivalve glume.

glume. The stamina are two capillary filaments. The glume of the flower adheres afterwards to the seed which is single, roundish, and pointed at each end.

This genus belongs to the *diandria digynia* class of Linnæus, and is the same with that which Mr. Ray calls *gramen vernum, spica brevi laxa*. It is the only grass, so far as is yet known, which has only two stamina.

ANTHRACOSIS, *ανθρακωσις*, in medicine, a corrosive scaly ulcer, either on the bulb of the eye or the eye-lids.

ANTHRAX, *ανθραξ*, a greek term literally signifying a burning coal, used by the antients to denote a gem, as well as a disease, more generally known by the name of carbuncle. See **CARBUNCLE**.

Anthrax, is sometimes also used for litanthrax, or pit-coal. See the article **LITHANTHRAX**.

ANTHROPOGRAPHY, *ανθρωπογραφια*, denotes the description of the human body, its parts, structure, &c.

ANTHROPOLATRÆ, *ανθρωπολατραι*, in church-history, an appellation given to the Nestorians, on account of their worshipping Christ, notwithstanding that they believed him to be a mere man.

ANTHROPOLATRIA, the paying divine honours to a man, supposed to be the most antient kind of idolatry. See the article **IDOLATRY**.

ANTHROPOLOGY, *ανθρωπολογια*, a discourse upon human nature. Thus Teichmeyer has given us a treatise of the animal oeconomy, which is intitled *anthropologia*.

Anthropology, among divines, denotes that manner of expression by which the inspired writers attribute human parts and passions to God. As in Genesis, God is said to have repented of having made man. **Anthropology**, in speaking of God, is necessary to give us an idea of many things which otherwise we could not conceive.

ANTHROPOMANCY, *ανθρωπομαντια*, a species of divination, performed by inspecting the intrails of a human creature.

ANTHROPOMORPHA, in the linnæan system of zoology, a class of animals, resembling in some degree the human form; the distinguishing characteristic of which is, that all the animals, comprehended in it, have four fore teeth in each jaw, and the teats are situated on the breast. Besides the human species, which stands at the head of this class, it likewise comprehends the monkey and sloath kinds.

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ANTHROPOMORPHISM, among ecclesiastical writers, denotes the heresy, or error of the anthropomorphites. See the next article.

ANTHROPOMORPHITES, in church-history, a sect of antient heretics, who taking every thing spoken of God in the scripture in a literal sense, particularly that passage of Genesis, in which it is said, *God made man after his own image*, maintained that God had a human shape. They are likewise called *audeans*, from Audeus their leader.

ANTHROPOMORPHOUS, an appellation given to whatever resembles the human form; thus we meet with anthropomorphous plants, particularly mandrake; anthropomorphous animals, &c. See the articles **ANTHROPOMORPHA**, and **MANDRAGORA**.

ANTHROPOPATHY, a figure or expression by which some passion is ascribed to God, which properly belongs only to man. It differs from anthropology as the genus from the species; anthropology signifying any thing human attributed to God, but anthropopathy only human affections, passions, &c.

ANTHROPOSCOPY, *ανθρωποσκοπια*, that part of physiognomy which judges of a man's character, &c. from the lineaments of his body.

ANTHROPOPHAGY, *ανθρωποφαγια*, the act of eating human flesh.

This custom, barbarous as it is, can boast of great antiquity. Some authors trace its original as high as the deluge. The primitive christians were accused of it by the heathens, who in all probability grounded the calumny on their misunderstanding what they had heard of the eucharist and the communion. In the southern part of Africa, and in some parts of America, this horrid practice is said still to prevail.

ANTHROPOTHYSIA, *ανθρωποθυσια*, the inhuman practice of offering sacrifices of men or women.

The **Anthropthyisia**, whatever horror the idea of it may now excite, was a frequent practice among the antients. Some have imagined that the sacrifice of Abraham was the first instance. Many reasonings and disquisitions have been founded on this supposition; by which the severity of Abraham's trial is thought by some to have been somewhat exaggerated. Human sacrifices were in use among the Gentiles before that time; practised by

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kings as well as by private persons; nay by entire nations, as the Egyptians, Phoenicians, Canaanites, &c.

ANTHYLLIS, the **BLADDER LOTUS**, in botany, a genus of the *diadelphiadecandria* class of plants, the corolla whereof is papilionaceous; the fruit is a small roundish legume, composed of two valves, and containing one or two seeds. This genus comprehends the *vulneraria* of Tournefort and others.

ANTI, *anti*, a greek preposition, which enters into the composition of several words, both latin, french, and english, in different senses. Sometimes it signifies *before*, as in *antichamber*, and sometimes opposite or contrary, as in the names of these medicines, *antiscorbutics*, *antivenereal*, &c. See the articles **ANTICHAMBER**, and **ANTISCORBUTICS**.

ANTI, in matters of literature, a title given to several books written in answer to others. Such are the *Anti-baillet*, *Antimenagiana*, &c.

ANTIBACCHIUS, in antient poetry, a foot consisting of three syllables, the two first long, and the last one short, such is the word *āmbirē*.

ANTIBES, a sea-port town of Provence in France, situated on the Mediterranean, in east longitude 7°. north latit. 43°. 40'.

ANTICHAMBER, an outer chamber, for strangers to wait in, till the person to be spoken with is at leisure.

A well proportioned anti-chamber ought to be in length the diagonal line of the square of the breadth, and not to exceed the breadth and half at most.

ANTICHRESIS, among civilians, the same with what in the common law is called a mortgage. See **MORTGAGE**.

ANTICHRIST, among ecclesiastical writers, denotes a great adversary of christianity, who is to appear upon the earth towards the end of the world. He is called in scripture, *the man of sin*, *the son of perdition*, &c. However, as the opinions of authors differ widely concerning him, we shall refer the curious to *Malvenda*, a spanish monk, who has written expressly on the subject.

ANTICHTHONES, in antient geography, an appellation given to the inhabitants of opposite hemispheres, as the southern and northern.

ANTICIPATION, the act of doing a thing before the time.

Anticipating a payment, is to pay it before the time be expired when it is to become due. See the article **ADVANCE**.

ANTICOR, or **ANTICORBUR**, among farriers, an inflammation in the horse's throat; being the same with the quincy in mankind.

Most writers are agreed, that this disorder proceeds from hard riding, exposing a horse to the cold, and giving him cold water to drink when he is hot, full feeding, and whatever else may cause a sudden stagnation of the blood. Some will have it to proceed from fatness and rank feeding.

The cure should first be attempted by large and repeated bleedings, to abate the inflammation; and Mr. Gibson approves of striking one or other of the veins of the hind parts to make a revulsion.

Next to bleeding, if the horse be costive or bound in his body, clysters are of use; and Dr. Bracken directs the following as a general one. Take leaves of mallows and pellitory of the wall, of each three handfuls; camomile flowers, one handful; anniseed and sweet fennelseed, each half an ounce; linseeds, one ounce; boil these in three quarts of water to two; then strain and press out the liquor strongly, and add of caryocostinum electuary one ounce, common salt two ounces, and common plaister oil three ounces. Mix. These should be injected through a very long pipe, for the purpose, and as warm as a man can bear his cheek to the side of the bladder it is tied up in, and it should be repeated every two or three days, as occasion offers.

ANTICOSTE, an american island, situated before the mouth of the river St. Lawrence, in 64°. west longitude, and 49°. 52'. north latitude.

ANTICUS, a term used by anatomists, importing that the part with which it is joined, stands before some others: thus, we meet with *serratus anticus*, *peronæus anticus*, *tibialis anticus*, &c. See the article **SERRATUS**, &c.

ANTIDESMA, in botany, a genus of the *dioecia pentandria* class of plants, the calyx of which is a perianthium, consisting of five oblong concave leaves; there is no corolla; the fruit is a cylindric berry, containing one cell; in which is lodged a single seed.

ANTIDOTE, among physicians, a remedy taken to prevent, or to cure pestilential diseases.

It signifies also a medicine which prevents the ill effects of poison; in which sense it is the same with *alexipharmic*. See the article **ALEXIPHARMIC**.

ANTIEN, or **ANCIENT**, a term applied to things which existed long ago: thus, we say, antient nations, antient customs, &c.

ANTIEN, sometimes also denotes elderly, or of long standing, in opposition to young or new; thus, we say, an antient barrister, antient building, &c.

ANTIEN, in a military sense, denotes either the ensign, or the colours.

ANTIEN, in ships of war, the streamer or flag, borne in the stern.

ANTIEN DEMESNE, or **DEMAIN**, in law. See the article **DEMAIN**.

ANTIGUA, or **ANTEGO**. See **ANTEGO**.

ANTIHECTICS, in pharmacy, medicines good in hectical disorders.

The antihecticum poterii, is a preparation of tin, and chalybeated regulus of antimony, in equal quantities, with three times as much nitre, said to do wonders in hectical and nervous cases.

ANTILLES, the same with the Caribbee islands. See the article **CARIBBEE**.

ANTILOGARITHM, the complement of a logarithm. See **COMPLEMENT**.

ANTILOGY, in matters of literature, an inconsistency between two or more passages of the same book.

ANTILYSSUS PULVIS, a medicine consisting of equal parts of the *lichen cinereus terrestris*, and black pepper, reckoned good to prevent the *rabies canina*.

ANTIMETABOLE, in rhetoric, a figure whereby two things are set in opposition to each other.

ANTIMONARCHICAL, an appellation given to whatever opposes monarchical government. See the article **MONARCHY**.

ANTIMONIALS, in medicine, preparations of antimony. See **ANTIMONY**.

ANTIMONIATED, something impregnated with the virtues of antimony.

ANTIMONY, in natural history, one of the semi-metals, as they are called, separated by fusion from a very hard and heavy, lead-coloured substance, called antimony-ore: this ore is composed of a number of extremely small sparkling granules, which give it the appearance of a lump of the purest steel, where fresh broken.

Antimony is of considerable use in medicine, chymistry, and mechanics. It promotes the fusion of metals, but makes every thing brittle with which it is mixed. It is also an ingredient in pewter, bell-metal, and the mixt-metal of which the types for printing are made.

Preparations of ANTIMONY. We find a multitude of these in medical writers, some of which are diaphoretic, whilst others are cathartic or emetic. 1. Precipitated sulphur of antimony, which is a diaphoretic, and said to be a great medicine in scorbutic cases. 2. Crocus, or saffron of antimony, called *crocus metallorum*, principally used by the farriers for horses. 3. Washed crocus of antimony, of which is made the *vinum antimoniale*, called also *vinum emeticum*, and *vinum benedictum*, a powerful emetic, given from one ounce to two or three at a dose. 4. Emetic tartar, made by boiling equal quantities of washed crocus of antimony and crystals, or cream of tartar, in three times the weight of the whole of common water; and letting this shoot again into crystals, which are the emetic tartar. This is said to be a good emetic, and preferable to all the other antimonial ones; its dose being from two grains to six or eight. 5. The calx of antimony, commonly called diaphoretic antimony. 6. The antimonial caustic, made with corrosive sublimate. 7. Cinnabar of antimony. 8. Tincture of antimony. 9. Butter of antimony. 10. Regulus of antimony, with a great many others to be found in dispensatories. See **CINNABAR**, **BUTTER**, &c.

ANTINOMIANS, in church-history, certain heretics, who first appeared about the year 1535, and so called because they rejected the law, as of no use under the gospel-dispensation, with other doctrines equally absurd.

ANTIOCH, a town of Syria, formerly its capital, but now in a ruinous condition, situated on the river Orontes, in 37°. east longitude, and 36°. north latitude.

ANTIPARALLELS, in geometry, are those lines D E, B C, (plate XIX. fig. 2. N^o. 1.) which make the same angles A D E, A C B, with the two lines A B, A C, cutting them, like parallel lines, but in opposite directions.

But M. Leibnitz calls antiparallels those lines E F, G H, (id. N^o 2.) which cut two parallels A B, C D, so that the outward angle A D F, being added to the inward one A K H, the sum may be equal to a right angle.

ANTIPATHY, a natural aversion of one body to another, in contradistinction to sympathy. See **SYMPATHY**.

Some authors endeavour to account for the antipathy between animals: thus, at

effluvia and spirituous steams, say they, proceed from the bodies of all creatures, some of which disagree with others, they excite hatred and anger in each other.

ANTIPATHY is used in painting, for an opposition between the qualities of colours.

This antipathy is chiefly observed between colours, which endeavour, as it were, to predominate over each other, and which by their mixture destroy each other. *e. gr.* ultramarine and vermilion. This does not obtain in the clear obscure; for tho' there be nothing more opposite to each other than black and white, as the one represents light, and the other darkness; yet they each preserve themselves in the mixture, and form together a grey which partakes of both.

ANTIPERISTALTIC *motion of the intestines*, the reverse of the peristaltic motion. See the article **PERISTALTIC**.

ANTIPERISTASIS, in the peripatetic philosophy, an imaginary intention, or heightening of any quality, by the opposition of its contrary. Thus, cold is said to augment the heat of fire; a doctrine, which every student in physics can now disprove.

ANTIPHONY, in music, the name which the Greeks gave to that kind of symphony which was executed in octave or double octave.

Antiphony is likewise the answer made by one choir to another, when an anthem is sung between them.

ANTIPHRAISIS, *antiphrasis*, in rhetoric, a figure by which in saying one thing we mean the contrary. See **IRONY**.

This figure regards sentences, and not single words.

ANTIPODES, in geography, a name given to those inhabitants of the globe that live diametrically opposite to one another. They lie under opposite parallels, and opposite meridians. They have the same elevation of their different poles. It is mid-night with the one, when it is noon-day with the other; the longest day with one is the shortest with the other; and the length of the day with the one is equal to the night of the other.

ANTIPOPE, in the romish church, one elected pope in an irregular manner, in opposition to another.

ANTIPREDICAMENTS, in logic. See the article **ANTEPREDICAMENTS**.

ANTIPTOSIS, *antiptosis*, in rhetoric, a figure which puts one case for another. See the article **CASE**.

ANTIQUARY, a person who studies and searches after monuments and remains of antiquity.

There were formerly in the chief cities of Greece and Italy, persons of distinction called antiquaries, who made it their business to explain the antient inscriptions, and give every other assistance in their power to strangers who were lovers of that kind of learning. We have in London a society of antiquaries incorporated by the king's charter.

ANTIQUATED, something obsolete, out of date, or out of use.

ANTIQUÉ, in a general sense, something that is antient; but the term is chiefly used by sculptors, painters, and architects, to denote such pieces of their different arts, as were made by the antient Greeks and Romans. Thus we say, an antique bust, an antique statue, &c.

Antique is sometimes contradistinguished from antient, which signifies a less degree of antiquity. Thus, antique architecture is frequently distinguished from antient architecture.

ANTIQUITY, signifies times or ages past long ago. Thus, we say, the heroes of antiquity, &c.

ANTIQUITY is also used to denote the works, or monuments of antiquity.

Thus we say, England abounds in antiquities.

In this sense too, Bacon calls antiquities the wrecks of history, or such particulars as industrious persons have collected from genealogies, inscriptions, monuments, coins, names, etymologies, archieves, instruments, fragments of history, &c. This is, indeed, a laborious work, but such as ought to come in the place of those fabulous origins of nations we abound with; being not only more useful, but likewise more acceptable to the judicious part of mankind.

ANTIQUITY likewise expresses the great age of a thing, and in this sense we say the antiquity of a family, the antiquity of a kingdom.

ANTIRRHINUM, the name used by botanical writers for a genus of plants, called in english snapdragon. See the article **SNAPDRAGON**.

ANTISAGOGE, in rhetoric, the same with concession. See **CONCESSION**.

ANTISCII, in geography, people who live on different sides of the equator, whose shadows at noon are projected opposite ways,

ANTI-

ANTISCORBUTICS, among physicians, medicines good in all scorbutical cases. See the article **SCURVY**.

ANTISEPTICS, among physicians, a denomination given to all substances that resist putrefaction.

Concerning these, which are extremely numerous, we have several curious observations in Dr. Pringle's diseases of the army. The following table exhibits a comparative view of the antiseptic virtue of salts, the common sea-salt being reckoned equal to unity.

| | | | |
|-------------------|---|-------------------|----|
| Sea-salt | 1 | Nitre | 4 |
| Sal gemmæ | 1 | Salt of hartshorn | 4 |
| Tartar vitriolat. | 2 | Salt of wormwood | 4 |
| Spirit minder. | 2 | Borax | 12 |
| Tartar solub. | 2 | Salt of amber | 20 |
| Sal diuret. | 2 | Alum | 30 |
| Sal ammoniac. | 3 | | |

Some resinous, and other substances, were found to be twelve times more antiseptic than sea-salt: such are myrrh, asa-fetida, snake-root, pepper, ginger, saffron, contrayerva-root, &c.

Antiseptics are of use in all putrid, malignant, and pestilential cases.

ANTISTOECHON, in grammar, the using one letter instead of another, as *elli* for *illi*.

ANTISTROPHE, ἀνίστροφη, in grammar, a figure by which two things mutually dependent on one another, are reciprocally converted. As the servant of the master, and the master of the servant.

ANTISTROPHE, among lyric poets, that part of a song and dance in use among the antients, which was performed before the altar, in returning from west to east, in opposition to strophe. See the articles **STROPHE** and **ODE**.

ANTITACTÆ, in church-history, a branch of gnostics, who held that God was good and just, but that a creature had created evil; and, consequently, that it is our duty to oppose this author of evil, in order to avenge God of his adversary.

ANTITHENAR, in anatomy, a name given to the *adductor indicis*. See the article **ADDUCTOR**.

ANTITHESIS, in rhetoric, a contrast drawn between two things, which thereby serve as shades to set off the opposite qualities of each other.

The poets, historians, and orators improve their subject, and greatly heighten the pleasure of the reader, by the pleasing opposition of their characters and descriptions,

The beautiful antithesis of Cicero, in his second Catilinarian, may serve for an example: 'On the one side stands modesty, on the other impudence; on the one fidelity, on the other deceit; here piety, there sacrilege; here continency, there lust, &c.'—And Virgil, in his beautiful description of Dido's despair, the night before her death, represents all the rest of the creation, enjoying profound tranquility, to render the disquietudes of that miserable queen the more affecting. St. Augustine, Seneca, and many other antient writers seem to affect antithesis; but among the moderns they are very much neglected.

ANTITHESIS, in grammar, the same with antistoechon. See **ANTISTOECHON**.

ANTITHET denotes either a quality or thing, set in opposition to its contrary.

ANTITHETARIUS, in law, a person, who endeavours to acquit himself, by charging the accuser with the same fact.

ANTITRAGUS, or **ANTITRAGICUS musculus**, in anatomy, a muscle of the ear. See the article **EAR**.

ANTITRINITARIANS, a general name given to all those who deny the doctrine of the trinity, and particularly to the arians and socinians.

ANTITYPE, among ecclesiastical writers, denotes a type corresponding to some other type or figure.

ANTITYPE, in the greek church, is also an appellation given to the symbols of bread and wine in the sacrament, and that even after consecration: so that it should seem, they do not believe transubstantiation.

ANTIVARI, a sea-port town of Albania, situated on the gulph of Venice, in 19° 40' east longitude, and 42° 10' north latitude. It is subject to the Turks.

ANTIVETRIA, a province or subdivision of Terra Firma, in South America, lying southwards of Carthagenæ.

ANTLER, among sportsmen, a start or branch of a deer's attire.

Brow-ANTLER, denotes the branch next the head: and,

Bes-ANTLER, the branch next above the brow-antler.

ANTOECI, in geography, an appellation given to those inhabitants of the earth who live under the same meridian, but on different sides of the equator, and at equal distances from it.

These have noon and midnight and all hours at the same time, but contrary seasons

sons of the year; that is, when it is spring with the one, it is autumn with the other; when summer with the one, winter with the other. And the days of the one are equal to the nights of the other, and *vice versa*.

ANTONIAN WATERS, *antoniana aque*, medicinal waters of Germany, very pleasant to the taste, and esteemed good in many chronic as well as hypochondriac cases.

This water, if mixed with any acid liquor, raises a considerable effervescence, and when mixed with rhenish wine and sugar, which is a common way of drinking it, it makes a great hissing and bubbling, and becomes turbid and milky. If powder of galls be added to it, it suffers no change but remains limpid and colourless; whence it is plain that it contains no iron, nor vitriol. Syrup of vitriol mixed with it turns the whole green, whence it is plain that it contains an alkali; and if oil of tartar be added to it, it becomes turbid and milky, and precipitates a white sediment, whence it appears that there is either common salt or a calcarious earth in it. If it be exposed sometime to the air in an open vessel, it, like all the other mineral waters, loses its pungent taste and pellucidity, becoming turbid and vapid. A quart of it evaporated with a very gentle heat leaves two scruples of a dry sediment, which being separated by another solution is found to be one half an alkaline salt, and the other a calcarious earth. Oil of vitriol mixed with the salt produces a great effervescence, and a penetrating scent arises like that produced by the mixing oil of vitriol and common salt. Hence it appears that these waters contain a small portion of an alkaline salt, a larger portion of sea-salt, and a yet larger of a calcarious earth, and with these a very considerable quantity of a subtil and penetrating mineral spirit.

It is a very temperate water, not too strongly operating either by stool or urine; and hence it is a very proper drink for persons in chronic and in many acute cases, either alone or mixed with wine to supply the place of malt liquor, which is proper but in very few illnesses. A long use of it alone may also prove of considerable service in hypochondriac cases.

ANTONIO, one of the Cape Verd islands, subject to the Portuguese, and situated in 26° west longitude, and 18° north lat.

ANTONOMASIA, in rhetoric, a figure by which the proper name of one thing is applied to several others; or, on the contrary, the name of several things to one. Thus we call a cruel person, a Nero; and we say the philosopher, to denote Aristotle.

ANTRIM, the most north-east county of Ulster, in the kingdom of Ireland.

ANTRIM is also the name of the chief town of the aforesaid county, situated at the north end of Lough-neah, in 6° 26' west longitude, and 54° 45' north latitude.

ANTRUM, among anatomists, a term used to denote several cavities of the body, as the *antrum genæ*, or that in the cheek-bone; the *antrum highmorianum*, or that in the maxillary or jaw-bone; and the *antrum pilori*, or that at the bottom of the pylorus.

ANTWERP, a beautiful city of the Austrian Netherlands, and capital of the marquisate of the same name. It stands on the eastern shore of the river Scheld, about twenty-five miles north of Brussels, in 4° 15' east longitude, and 51° 15' north latitude.

ANVIL, an iron instrument on which smiths hammer or forge their work, and usually mounted on a firm wooden block. See it represented in plate CCLIII. fig. 2. among the utensils or tools belonging to the art of SMITHERY.

A forged anvil is reckoned better than one of cast work.

ANUS, in anatomy, the extremity of the *intestinum rectum*, or orifice of the fundament. It is surrounded with a large quantity of fat, that it may be easily dilated in the evacuation of its contents, and is furnished with three muscles called elevatores and sphincter. See the article SPHINCTER, &c.

Anus denotes also a small cavity in the third ventricle of the brain. See BRAIN.

ANUS, in botany, signifies the posterior opening of a monopetalous flower.

AONIDES, in mythology, one of the many appellations of the muses, so called from Aonia, a part of antient Boeotia.

AORIST, *aoristos*, among grammarians, a tense peculiar to the greek language, comprehending all the tenses; or rather, expressing an action in an indeterminate manner, without any regard to past, present, or future.

AORTA, in anatomy, called also *arteria magna*, a large artery arising with a single trunk from the left ventricle of the heart
above

above its valves, called *semilunares*, serves to convey the mass of blood to all parts of the body.

After ascending a little upwards, its trunk is bent, in manner of an arch, and from this part it sends, in human subjects, usually three ascending branches. This is called the *aorta ascendens*.

The *descendens* is that part of the trunk which, after the arch-like inflection descends thro' the thorax and the abdomen down to the os sacrum, and is usually larger in women than in men. The *aorta* hath four tunics, a nervous, a glandulous, a muscular, and a membranous one. See the article **ARTERY**.

AOUST, a town of Piedmont in Italy, capital of the dutchy of the same name, situated about fifty miles north of Turin, in $7^{\circ} 10'$ east longitude, and $45^{\circ} 45'$ north latitude.

APAGOGICAL DEMONSTRATION, an indirect way of proof, by shewing the absurdity of the contrary.

APALACHIAN MOUNTAINS, a ridge of mountains of north America, lying westward of the british plantations, and extending from 30° to 40° north latitude.

APAMEA, or **HAMA**, a town of Syria, situated on the river Orontes, in $38^{\circ} 30'$ east longitude, and 34° north latitude.

APAMEA is also the name of a town of Phrygia, upon the river Mariyas; of a town of Media, confining upon Parthia; and of a town of Bithynia, called by the Turks Myrlea.

APANAGE, or **APENNAGE**, in the french customs, lands assigned by a sovereign for the subsistence of his younger sons, which revert to the crown upon failure of male issue in that branch to which the lands are granted.

In England, the younger sons have no certain apanage, as in France, but only what the king is pleased to bestow upon them.

APARINE, **CLEAVERS**, in botany, a genus of plants, with a campanulated monopetalous flower, very wide at the mouth. Its fruit is a kind of dry berry, formed of two small globose bodies adhering together, and containing a single roundish seed. See plate XIX. fig. 3.

Aparine is of some repute as an antiscorbutic. It is called by Linnæus *galium*. See **GALLIUM**.

APARTMENT, a portion of a house, containing different conveniencies for a person to live in; as a hall; or dining-room,

a bed-chamber, an anti-chamber, a closet, and wardrobe.

APATHY, a term in philosophy, denoting an utter privation of passion, and an insensibility of pain. Thus, the stoics affected an entire apathy, so as not to be ruffled, or sensible of pleasure or pain.

APATURIA, *apaturia*, in greecian antiquity, an athenian festival kept in honour of Bacchus.

It was during this solemnity, that the young people were registered in the respective wards of their fathers.

APE, in zoology, the english name of the *simia*, or monkeys without any tail. See the article **SIMIA**.

APELLITES, christian heretics in the second century, who affirmed that Christ received a body from the four elements, which at his death he rendered back to the world, and so ascended into heaven without a body.

APENE, *apene*, in antiquity, the chariot in which the images of the gods were carried on solemn occasions.

APENRADE, a town of Sleswic, or south Jutland, situated on a bay of the Baltic-sea, in 10° east longitude, and 55° north latitude.

APENZEL, a town of Switzerland, capital of the canton of the same name, and situated in 9° east longitude, and $47^{\circ} 30'$ north latitude.

APEPSY, in medicine, denotes crudity or a bad digestion, arising from a rawness of the stomach, and a want of concoction of the aliments.

APER, in zoology, the boar, or male of the hog-kind. See the article **HOG**.

APER, in ichthyology, a name by which some call two very distinct fishes, the zeus and capricus. See the articles **ZEUS**, and **CAPRICUS**.

APER *moschiferus*, the musk-boar, in zoology, the same with the american *tajacu*. See the article **TAJACU**.

APE'RIENS, *palpebram reftus*, in anatomy, a muscle of the eye-lid. It arises sharp and fleshy from the profoundest part of the orbit, near the place where the optic nerve is transmitted, passing directly over the musculus attollens; it becomes tendinous, as it marches over the ball of the eye, whence it still grows broader and thinner, till it is inserted into the whole superior part of the upper eye-lid.

APERIENTS, in the materia medica, an appellation given to such medicines as facilitate the circulation of the juices in
their

their containing vessels, by removing all obstructions. See the articles DETERGENTS and DEOBSTRUENTS.

The five greater aperient roots of the shops are smillage, fennel, asparagus, parslly, and butcher's-broom; as the five lesser ones are gras, madder, eryngo, capers, and chammoc.

APERTURE, the opening of any thing, or a hole or cleft in any continuous subject.

APERTURE, in geometry, the space between two right lines which meet in a point, and form an angle.

APERTURE, in optics, a round hole in a turned bit of wood or plate of tin, placed within side of a telescope or microscope, near to the object glass, by means of which more rays are admitted, and a more distinct appearance of the object is obtained. According to Mr. Huygens, the best aperture for an object glass of thirty feet, is as thirty to three; that is, as ten to one, so is the square root of the focal distance of any lens, multiplied by thirty to its proper aperture. Mr. Auzout says, he found by experience, that the proper apertures of telescopes, ought to be nearly in the subduplicate ratio of their length. It is certain that object-glasses will admit of greater apertures, if the tubes be blackened within side, and their passage be furnished with wooden rings.

APERTURES, or **APERTIONS**, in architecture, are used to signify doors, windows, chimneys, outlets and inlets for light, smoke, &c. They ought to be as few in number, and as moderate in dimensions as possible, and never made too near the angles of the walls.

APERTURA TABULARUM, in law books, the breaking open a last will and testament. See the article WILL, &c.

APERTURA FEUDI, in the civil law, signifies the loss of a feudal tenure, by default of issue to him to whom the feud was first granted. See the article FEE.

APETALOSE, or **APETALOUS**, among botanists, an appellation given to such plants as have no flower-leaves.

APEX, in antiquity, the crest of a helmet, but more especially a kind of cap worn by the flamens.

APEX, among grammarians, denotes the mark of a long syllable, falsely called a long accent. See the article ACCENT.

APHACA, **VETCHLING**, in botany, a genus of plants, with papilionaceous flowers, and a small pod for its seed-vessel. Lin-

næus makes it only a species of lathyrus. See plate XIX. fig. 4. and the article LATHYRUS.

APHÆRESIS, ἀφαίρεσις; in grammar, a figure by which a letter or syllable is cut off from the beginning of a word.

APHÆRESIS, that part of surgery which teaches to take away superfluities.

APHANES, **PARSLEY-PIERT**, in botany, a genus of the tetrandria digynia class of plants, the calyx of which is a permanent perianthium of a tubulated figure, consisting of a single leaf divided into eight segments at the edge, and those alternately larger and smaller: there is no corolla; nor is there any pericarpium; but the calyx closes at the mouth, and contains two oval acuminate seeds, compressed, and of the length of the style.

APHELIUM, or **APHELION**, in astronomy, is that point in any planet's orbit, in which it is farthest distant from the sun; being in the new astronomy, that end of the greater axis of the elliptical orbit of the planet, most remote from the focus wherein the sun is.

The times of the aphelia of the primary planets, may be known by their apparent diameters appearing least; as also, by their moving slowest in a given time. They may likewise be found by calculation, the method of doing which is delivered in most astronomical writers.

Kepler places the aphelia for the year 1700, as in tab. N^o. 1; and De la Hire, as in tab. N^o. 2.

| Tab. N ^o . 1. | | | | | Tab. N ^o . 2. | | | | |
|--------------------------|------------|------|----|-------------|--------------------------|----|-------------|------|---|
| h | 28° 3' 48" | of ♀ | h | 29° 14' 41" | of ♀ | h | 29° 14' 41" | of ♀ | h |
| ♂ | 8 | 10 | 40 | ♂ | 10 | 17 | 14 | ♂ | ♂ |
| ♂ | 0 | 51 | 29 | ♂ | 0 | 35 | 25 | ♂ | ♂ |
| ♀ | 3 | 24 | 27 | ♀ | 6 | 56 | 10 | ♀ | ♀ |
| ♀ | 8 | 25 | 30 | ♀ | 31 | 3 | 40 | ♀ | ♀ |

De la Hire makes the yearly motion of them to be h 1' 22", ♀ 1' 34", ♂ 1' 7", ♀ 1' 26", and ♀ 1' 39".

Dr. Halley has given us a strict geometrical method for finding the aphelia of the planets, in the Philol. Transact. N^o. 128.

Sir Isaac Newton and Dr. Gregory have proved that the aphelia of the primary planets are at rest. See Princip. prop. 14. lib. 3. And in the scholium to the above proposition they say, that the planets nearest to the sun, viz. Mercury, Venus, the Earth, and Mars, from the actions of Jupiter and Saturn upon them, move a small matter in consequentia with regard

to the fixed stars, and that in the sesquiplicate ratio of their respective distances from the sun.

APHIS, in zoology, the general name for the insects called in english tree-lice.

The aphid has four erect wings, or none at all; its trunk is reflex; and the body is formed into two horns behind.

APHORISM, *αφορισμός*, a maxim or principle of a science; or a sentence which comprehends a great deal in a few words. The term is seldom used but in medicine and law. We say the aphorisms of Hippocrates, the aphorisms of the civil law, political aphorisms, &c.

APHORISTIC, something belonging to, or partaking of, the nature of an aphorism. See the preceding article.

The aphoristic method stands contradistinguished to the systematic, or methodical, as also to the diexodic, or discursive way. The aphoristic method has great advantages, as containing much matter in a small compass; sentiments are here almost as numerous as expressions; and doctrines may be counted by phrases. Every thing is close and pertinent, no room for useless discussions, or for languishing connections, and transitions; there is hardly a word to be lost.

APHRACTI, *αφρακται*, in the maritime affairs of the antients, were open vessels, without any decks.

APHRODISIA, *αφροδισια*, in antiquity, festivals kept in honour of Venus, the most remarkable of which was that celebrated by the Cyprians, first instituted by Cinyras, out of whose family certain priests of Venus were elected, and for that reason named *Κινυραδται*. At this solemnity several mysterious rites were practised: all who were initiated to them offered a piece of money to Venus as an harlot, and received as a token of the goddess's favour a measure of salt, and a *φαλλος*; the former because salt is a concretion of sea-water, to which Venus was thought to owe her birth; the latter because she was the goddess of wantonness.

APHRODISIACS, among physicians, medicines which increase the quantity of seed, and create an inclination to venery.

APHRODITA, in zoology, one of the naked sea-insects, of an oval shape, and acculeated, with a perforation in the middle of the back.

APHTHÆ, in medicine, small, round, and superficial ulcers arising in the mouth.

The principal seat of this disease, is the

extremity of excretory vessels, salival glands, and, in short all glands that furnish a humour like the saliva, as the lips, gums, &c.

Children and old men are subject to the apthæ, because the *vis vitæ* in both is languid, and the humours liable to become viscous. In the cure of the apthæ, it will be proper to use *mel rosatum*, acidulated with the spirit of vitriol.

APHYA COBITES, in ichthyology, a species of gobius, with seventeen rays in the second dorsal fin. See **GOBIUS**.

It is a very pretty, tho' a very small fish, about an inch and a half long; the head is short and compressed, and the body rounded and also somewhat compressed.

APHYLLANTHES, the *blue montpellier-pink*, in botany, a genus of the hexandria monogynia class of plants, the calyx of which is composed of a number of imbricated, lanceolated spathæ; the corolla consists of six petals, of an obversely oval figure, terminating at the base in very narrow ungues, and patent at the limb, forming a kind of tube below it: the fruit is a turbinated capsule of a triangular figure, and contains three cells; the seeds are oval.

APIARY, a place where bees are kept, which should be properly defended from high winds, as well as from poultry, hogs, &c. whose dung is extremely offensive to the bees. See **BEE** and **HIVE**.

APICES, in botany, the same with antheræ. See the article **ANTHERÆ**.

APIS, or **APES**, in zoology, a genus of four-winged insects, with wings entirely membranaceous, and their tails furnished with a sting; comprehending the bee, hornet, wasp, and humble-bee. See the articles **BEE**, **HORNET**, &c.

APIUM, **PARSLEY**, in botany, a genus of the pentandria digynia class of plants, the partial umbel of which is composed of a great many rays; the general umbel of fewer: they have neither of them any involucre; the perianthium is scarce visible; the general corolla is uniform; the single flowers consist each of five roundish, inflex, equal petals: the fruit is naked, oval, striated, and divisible into two parts, containing two seeds of an oblong oval shape, convex and striated on one side, and plane on the other. See the article **PARSLEY**.

APLUDA, in botany, a genus of the triandria digynia class of plants, the common calyx of which is an univalve, bifloral, ovated, concave, loose, mucronated

ed glume; the proper glume is bivalve, and placed obliquely; the corolla is a bivalve glume of the length of the cup: there is no pericarpium: the seed, which is single, is involved in the glume of the corolla.

APLUSTRE, APLUSTRÆ, or AMPLUSTRÆ, in the naval architecture of the antients, an ornament resembling a shield fixed in the poop of a ship, in which case it differed from the acrostolium. See the article **ACROSTOLIUM**.

APOBATERION, in antiquity, a valetudinary speech or poem made by a person on departing out of his own country, and addressed to his friends or relations.

APOCALYPSE, *αποκαλυψις*, one of the sacred books of the New Testament, so called from its containing revelations concerning several important doctrines of christianity.

It stands last in the canon of scripture, and is generally attributed to the apostle St. John; tho' there have not been wanting some, who ascribe it to other authors, and even wholly reject it as spurious.

APOCOPE, among grammarians, a figure which cuts off a letter or syllable from the end of a word, as *ingeni* for *ingenii*.

APOCRISIARIUS, in antiquity, an officer who delivered the messages of the emperor. He became afterwards chancellor, and kept the seals. It was also a title given to a bishop's resident at court, to the pope's deputy at Constantinople, and to the treasurer of a monastery.

APOCRUSTICS, *αποκρυστικα*, in medicine, the same with repellents. See the article **REPELLENTS**.

APOCRYPHAL, something dubious, is more particularly applied to certain books not admitted into the canon of scripture. Those are certain books of the Old Testament extant only in greek, admitted by the church of Rome as canonical, but rejected by the reformed churches as no part of holy writ; such are the books of Judith, Wisdom, Tobit, Baruch, Maccabees, the third and fourth books of Esdras.

In this sense apocryphal stands distinguished from canonical, though the romish church disowns the distinction. See the articles **CANON** and **CANONICAL**.

Authors are divided as to the origin of the appellation apocryphal, and the reason why it was given to these books.

The apocryphal books were not received into the canon, either of the Jews, or ancient Christians, but were first made ca-

nonical by a decree of the council of Trent. The apocryphal books, according to the sixth article of the church of England, are to be read for example of life and instruction of manners; but it doth not apply them to establish any doctrine.

APOCYNUM, **DOGSBANE**, in botany. See the article **DOGSBANE**.

APODICTICAL, among philosophers, a term importing a demonstrative proof, or systematical method of teaching.

APOGEE, *apogæum*, in the old astronomy, that point of the orbit of a planet, or the sun, which is farthest from the earth.

Antient astronomy, which placed the earth in the center of the system, was much taken up in ascertaining the apogee and perigee; which the moderns have changed for aphelium and perihelium. See the article **APHELUM**, &c.

APOLLINARIAN GAMES, in roman antiquity, an appellation given to certain theatrical entertainments, celebrated annually in honour of Apollo. They were instituted in the year of Rome 542. The occasion was a kind of oracle delivered by the prophet Marcus after the fatal battle at Cannæ, declaring, that to expel the enemy, and cure the people of an infectious disease, which then prevailed, sacred games were to be annually performed in honour of Apollo; the prætor to have the direction of them, and the decenviri to offer sacrifices after the grecian rite.

APOLLINARIANS, or **APOLLINARISTS**, in church history, a sect of heretics who maintained, that Jesus Christ had neither a rational human soul, or a true body.

APOLLONIA, in antiquity, an annual festival celebrated by the Ægialians in honour of Apollo.

APOLOGETIC, or **APOLOGETICAL**, something said or written in the manner of an apology. See **APOLOGY**.

APOLOGUE, in matters of literature, an ingenious method of conveying instruction by means of a feigned relation, called a moral fable.

The only difference between a parable and an apologue is, that the former being drawn from what passes among mankind, requires probability in the narration: whereas the apologue being taken from the supposed actions of brutes, or even of things inanimate, is not tied down to the strict rules of probability. Æsop's fables are a model of this kind of writing.

APOLOGY, *απολογία*, a Greek term literally importing an excuse or defence, of some person, action, and the like; whether made by word of mouth, *vivā voce*, or in writing.

APOMELI, among antient physicians, a decoction of honey and vinegar, much used as a detergent, promoter of stool, urine, &c.

APONEUROSIS, *απονευρωσις*, among physicians, a term sometimes used to denote the expansion of a nerve or tendon in the manner of a membrane; sometimes for the cutting off a nerve; and, finally, for the tendon itself.

APOPHLEGMATIZANTS, in pharmacy, medicines proper to clear the head from superfluous phlegm, whether by spitting, or by the nose; and consequently comprehending masticatories, and sternutatories, or errhines.

APOPTHEGM, *αποφθγμα*, a short, sententious, and instructive remark pronounced by a person of distinguished character. Such are the apophthegms of Plutarch, and those of the antients collected by Lycosthenes.

APOPHYGE, in architecture, a concave, part or ring of a column, lying above or below the flat member. The French call it *le conge d'en bas*, or *d'en haut*; the Italians, *cavo de basso*, or *di sopra*, and also *il vivo di basso*.

The apophyge, originally, was no more than the ring, or ferril, at first fixed on the extremities of wooden pillars, to keep them from splitting; which, afterwards, was imitated in stone.

APOPHYSIS, in anatomy, an excrescence from the body of a bone, of which it is a true continuous part, as a branch is of a tree.

The apophyses take different names, with respect to their situation, use or figure; such are coracoides, mamellaris, mastoides, styloides, obliqua, recta, superficialis, &c. See **CORACOIDES**, &c.

The principal uses of the apophyses are, 1. To make the better articulations, whether these be intended to have motion, or to be fixed. 2. To afford a firm place of insertion for the muscles. And, 3. To defend the other parts.

APOPLECTIC, whatever relates or belongs to an apoplexy. Thus we say, an apoplectic fit. See the next article.

APOPLEXY, a distemper in which the patient is suddenly deprived of the exercise of all the senses, and of voluntary

motion; while a strong pulse remains with a deep respiration, attended with a stertor, and the appearance of a profound sleep. This disorder arises from whatever cause is capable of preventing either totally or in part, the influx of the nervous fluid to the organs of sense, and the reflux of the same fluid from these organs to the common sensory in the brain.

1. The natural make of the body may dispose to an apoplexy, when a large head and short neck favour the congestion of blood and humours in the head; or a corpulent body renders the capillary arteries subject to compression.

2. It may be occasioned by polypous concretions in the carotid or vertebral arteries, or by an inflammatory siziness, and thick pituitous disposition of the whole mass of blood.

3. By an extravasation of the respective fluids contained in the arterial, nervous and lymphatic vessels; and, finally, by whatever obstructs the return of the blood from the vessels of the brain to the heart. Hence it appears that apoplexies are produced by various causes, and may properly enough be distinguished into sanguinous and pituitous, to which may be added ferrous, atrabilarious, polypous, &c.

An apoplexy may be foreseen from the frame of the body, from a knowledge of the predisposing causes; and from the first effects of these causes, as a tremor, vacillation, vertigo, stupor, deprivation of memory, and a frequent incubus. As to the cure and prevention of an apoplexy, no universal rules can be laid down; for the method of relief must vary, according to the predisposing causes and the parts principally affected. In general, however, it is necessary to procure evacuations by all possible means, by emetics, and by acrid clysters; and not to omit external topics to the head, which stimulate or resolve, of which kind blisters raised by cantharides are of the greatest service. During the fit, copious bleeding in the jugulars is to be used, strong volatiles to be applied to the nose, and the temples rubbed with cephalic mixtures. Arteriotomy, scarification of the occiput, and the actual cautery, are also recommended.

APORRHOEA, a term used by some writers, to denote any kind of effluvia. See the article **EFFLUVIUM**.

APOSIOPESIS, *αποσιωπησις*, in rhetoric, the suppressing, or omitting to relate a

part of the subject: thus the poet passes off the circumstance of Didô's killing herself.

Dixerat, atque illam media inter talia ferro

Collapsam adspiciunt.

APOSTACY, the abandoning the true religion. The primitive christian church distinguished several kinds of apostacy. The first of those who went over intirely from christianity to judaism; the second of those who mingled judaism and christianity together; and the third of those who complied so far with the Jews, as to communicate with them in many of their unlawful practices, without making a formal profession of their religion. But the fourth sort was of those who, after having been sometime christians, voluntarily relapsed into paganism.

APOSTATE, one who deserts his religion. Among the romanists, it signifies a man who, without a legal dispensation, forsakes a religious order of which he had made profession. Hence,

APOSTATA CAPIENDA, in the English law, a writ that formerly lay against a person who having entered into some order of religion, broke out again, and wandered up and down the country.

A POSTERIORI, or *demonstration A POSTERIORI*. See the article **DEMONSTRATION**.

APOSTHUME, or **APOSTEM**, *αποστημα*, the same with abscess. See **ABSCCESS**.

APOSTIL, *apostilla*, in matters of literature, the same with a marginal note.

APOSTLE, *αποστολος*, properly signifies a messenger or person sent by another upon some business; and hence, by way of eminence, denotes one of the twelve disciples, commissioned by Jesus Christ to preach the gospel.

The apostles are usually represented with their respective badges: thus, Peter is painted with the keys; Paul, with a sword; Andrew, with a cross; James the greater, with a pilgrim's staff, and a gourd-bottle; James the less, with a fuller's pole; John, with a cup and a winged serpent flying out of it; Bartholomew, with a knife; Philip, with a long staff, the upper end of which is formed into a cross; Thomas, with a lance; Matthew, with a hatchet; Matthias, with a battle-ax; Simon, with a saw; and Jude, with a club.

APOSTLES-Creed. See the article **CREED**.

APOSTOLIC, or **APOSTOLICAL**, something connected with, or derived from, the apostles. See the article **APOSTLE**.

APOSTOLICI, an early sect of christians, who pretended to lead their lives in imitation of the apostles. They condemned marriage.

APOSTROPHE, in rhetoric, a figure by which the orator, in a vehement commotion, turns himself on all sides, and applies to the living and dead, to angels and to men, to rocks, groves, &c. Thus Adam in Milton's *Paradise lost*,

O woods, O fountains, hillocks, dales,
and bowers,

With other echo, &c.

APOSTROPHE, in grammar, a mark placed over a letter to shew that a vowel is cut off, as *call'd* for *called*, *th' audience* for *the audience*.

APOTACTITES, in church history, a name given to the apostolici, from the shew they made of renouncing the world, more than other men. See **APOSTOLICI**.

APOTHECARY, one who practises the art of pharmacy.

This is a genteel business, and has been in great vogue of late years; there being, as is computed, upwards of a thousand in and about London. A youth intended for this profession, should be a pretty good scholar, and have such a knowledge in the Latin tongue, as to be able to read the best writers upon the subject of botany, pharmacy, anatomy, and medicine. In London, the apothecaries are one of the city companies, and by an act which was made perpetual in the ninth year of George I. are exempted from serving upon juries, or in ward and parish offices. They are obliged to make up their medicines according to the formulas prescribed in the college dispensatory, and are liable to have their shops visited by the censors of the college, who are empowered to destroy such medicines as they think not good.

APOTHEOSIS, in antiquity, a ceremony by which the antient Romans complimented their emperors and great men after their death, with a place among the gods. It is described as follows. After the body of the deceased had been burnt with the usual solemnities, an image of wax, exactly resembling him, was placed on an ivory couch, where it lay for seven days, attended by the senate and ladies of the highest quality in mourning; and then the young senators and knights bore the bed of state thro' the *via sacra* to the old *forum*, and from thence to the *campus martius*, where it was deposited upon an edifice built in form of a pyramid. The bed being thus placed, amidst a quantity of



Fig. 1. ANOMALY.

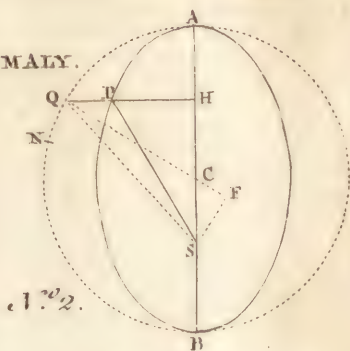
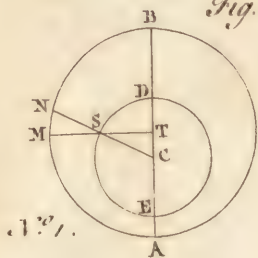


Fig. 3. APARINE.



N_1^0

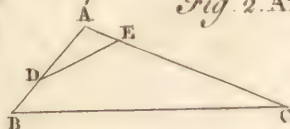


Fig. 2. ANTIPARALLELS.

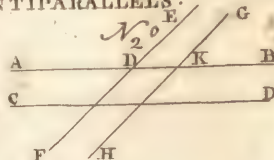


Fig. 4. APHACA, OT VETCHLING.

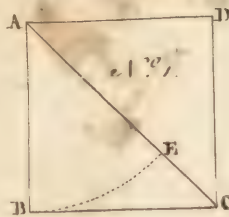


Fig. 5. APOTOME.

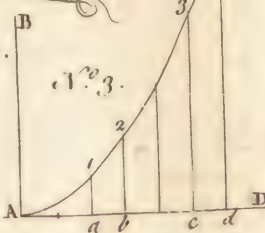
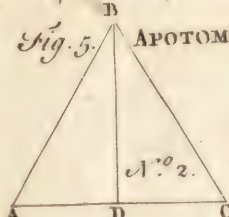
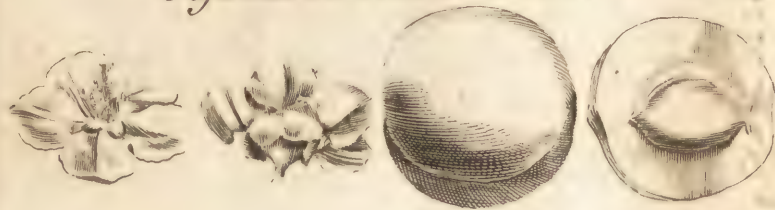


Fig. 6. APRICOT, ARMENTACA.



of spices and other combustibles, and the knights having made a procession in solemn measure round the pile, the new emperor, with a torch in his hand, set fire to it, whilst an eagle, let fly from the top of the building, and mounting in the air with a firebrand, was supposed to convey the soul of the deceased to heaven, and thenceforward he was ranked among the gods.

APOTOME, in geometry, the difference between two incommensurable lines: thus, EC , (plate XIX. fig. 5. N^o. 1.) is the apotome of AC and AB .

If we suppose $AC = a$, and $AB = b$, then will their apotome be $a - \sqrt{b}$; or, in numbers, $2 - \sqrt{3}$. Hence also the difference between the side $AC = 2$ (*ibid*. N^o. 2.) of an equilateral triangle ABC , and the perpendicular $BD = \sqrt{3}$, is an apotome, *viz.* $2 - \sqrt{3}$. And, universally, if AC (*ibid*. N^o. 3.) be a semi-parabola, whose axis is AB , and its latus rectum $= 1$, and if AD be a tangent to the vertex at A , and this be divided into the parts $Aa = 2$, $Ab = 3$, $Ac = 5$, $Ad = 6$, &c. and perpendiculars a_1 , b_2 , c_3 , d_4 , &c. be drawn, these will be, from the nature of the curve, $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{6}$, &c. respectively; and so $\frac{1}{2}Aa (= 1) - a_1$, will be $1 - \sqrt{2}$; $Aa - b_2$ will be $2 - \sqrt{3}$, &c. by which means you will have an infinite series of different apotomes.

APOTOME, in music, the difference between a greater and lesser semi-tone, expressed by the ratio 128 : 125.

APOZEM, a medicine; the same with decoction. See the article **DECOCTION**.

APPARATUS, a term used to denote a complete set of instruments, or other utensils, belonging to any artist or machine: thus we say a surgeon's apparatus, a chemist's apparatus, the apparatus of the air-pump, microscope, &c.

APPARENT, in a general sense, something that is visible to the eyes, or obvious to the understanding.

APPARENT, among mathematicians and astronomers, denotes things as they appear to us, in contradistinction from real or true: thus we say, the apparent diameter, distance, magnitude, place, figure, &c. of bodies. See the articles **DIAMETER**, **DISTANCE**, &c.

APPARENT motion. See **MOTION**.

APPARITION, in a general sense, denotes simply the appearance of a thing.

APPARITION, in a more limited sense, is

used for a spectre, ghost, or the like preternatural appearance: thus we read of apparitions of angels, departed souls, &c. Several instances of apparitions occur in the Bible; that of Samuel, raised by the witch of Endor, has occasioned great disputes. We find great controversies among authors, in relation to the reality, the existence or non-existence, the possibility or impossibility of apparitions. The Chaldeans, the Jews and other nations have been the steady asserters of the belief of apparitions. The disbelief of spirits and apparitions, is by some made one of the marks of infidelity, if not of atheism. Many of the apparitions, we are told of in writers, are doubtless mere delusions of the sense; many others were seen but in dreams or deliquiums; many others are fictions contrived merely to amuse, or answer some purpose. Apparitions it is certain are machines that on occasion have been of good service both to generals, to ministers of state, to priests and others. It has been controverted whether an apparition be any proof of a future state.

The abbé de St. Pierre has a discourse exprels on the physical method of solving or accounting for apparitions; he makes them the effect of feverish dreams, disturbed imaginations, &c.

APPARITION, in astronomy, signifies a star or other luminary's becoming visible, which before was hid. It stands opposed to occultation.

Circle of perpetual APPARITION. See the article **CIRCLE**, &c.

APPARITOR, among the Romans, a general term to comprehend all attendants of judges and magistrates appointed to receive and execute their orders. Apparitor, with us, is a messenger, that serves the process of a spiritual court, or a beadle in an university, who carries the mace. See the article **BEADLE**.

APPAUMEE, in heraldry, denotes one hand extended with the full palm appearing, and the thumb and fingers at full length.

APPEAL, in law, the removal of a cause from an inferior to a superior court or judge, when a person thinks himself aggrieved by the sentence of the inferior judge. Appeals lie from all the ordinary courts of justice to the house of lords. In ecclesiastical causes, if an appeal is brought before a bishop, it may be removed to the archbishop; if before an archdeacon, to the court of arches, and

and thence to the archbishop; and from the archbishop's court to the king in chancery.

Appeal, in common law, is taken for the accusation of a murderer by a person who had interest in the party killed; or of a felon by an accomplice. It is prosecuted either by writ or by bill: by writ, when a writ is purchased out of the chancery by one person against another, commanding him to appeal some third person of felony, and to find pledges for doing it effectually; by bill, when the person himself gives in his accusation in writing, offering to undergo the burden of appealing the person therein named.

APPEAL OF MAIM is the accusing one that has maimed another.

APPEAL OF RAPE lies where any woman is ravished. These last are now much disused, but the appeal of murder is frequently brought.

APPEARANCE, in a general sense, the exterior surface of a thing, or that which immediately strikes the sense, or the imagination.

APPEARANCE, in law, signifies a defendant's filing a common or special bail, on any process issued out of a court of judicature. In actions by original, appearances are entered with the philazer of the county; and by bill, with the prothonotary.

In perspective, **APPEARANCE** is the projection of a figure or body on the perspective plane. In optics, direct appearance is the sight of any object by direct rays, without refraction or reflection.

In astronomy, **APPEARANCE** signifies the same as phenomena or phases; and in physiology, the same as phasmata. See the articles **PERSPECTIVE**, **PHÆNOMENON**, **PHASMATA**, &c.

APPEASING MEDICINES, the same with paregorics or anodynes. See the article **ANODYNE**.

APPELLANT, in a general sense, one who appeals. See the article **APPEAL**.

APPELLANTS, in church-history, an appellation given to such of the roman catholic clergy, as appeal from the constitution *unigenitus*, to a general council.

APPELLATIVE, in grammar, a noun, or name, which is applicable to a whole species or kind, as *man*, *horse*; in contradistinction to a proper name. See the articles **NOUN**, **NAME**, and **GENERAL TERMS**.

APPELLEE, among lawyers, the person against whom an appeal is brought. See the article **APPEAL**.

APPENNAGE. See the article **APANAGE**.

APPENDANT, in law, any thing that is inheritable, belonging to some more worthy inheritance; as an advowson, common, or court, may be appendant to a manor, land to an office, &c. but land cannot be appendant to land, for both are corporeal inheritances, and one thing corporeal cannot be appendant to another.

APPENDICULA Vermiformis, in anatomy. On one side of the bottom of the cæcum lies an appendix, resembling a small intestine, nearly of the same length with the cæcum, but very slender. It is termed *appendicula vermiformis* from its supposed resemblance to an earth-worm. Its common diameter is about a quarter of an inch. By one extremity it opens laterally, and a little obliquely, into the bottom of the cæcum; and the other extremity is closed, being sometimes greater, and sometimes smaller, than the rest of the appendix.

It has some contortions like those of a worm when it is touched, from whence comes the epithet of *vermicularis*, or *vermiformis*; and it may likewise be compared to the gills or pendants of a turkey cock. In structure it nearly resembles that of the other intestines. The internal coat of this appendix is folliculous, like that of the duodenum; and it is likewise reticular, the meshes being the glandular lacunæ, which continually discharge a fluid into its cavity.

It has been often disputed whether this appendix, or the large portion, which is, as it were, the head of the colon, ought to be called the cæcum; but the general division of the intestines into great and small leaves no doubt of its being only an appendix in man, whatever reason there may be for talking differently with respect to brutes and birds.

APPENDIX, in literature, a treatise added at the end of a work, to render it more complete. See **SUPPLEMENT**.

APPENDIX, in anatomy, the same with *epiphysis*. See the article **EPIPHYSIS**.

APPETITE, *appetitus*, in a general sense, the desire of enjoying some object, supposed to be conducive to our happiness. When this inclination is guided by reason, and proportioned to the intrinsic value of the object, it is called rational appetite; as, on the other hand, it is denominated sensitive appetite, when we have only a blind propensity to a thing, without determinate ideas of the good qualities for which we desire it.

APPE-

APPETITE, in medicine, a certain painful or uneasy sensation, always accompanied with a desire to eat or drink.

An excessive appetite is called by physicians *bulimy*, or *fames canina*; a defect or loss of it, *anorexy*; and that after things improper for food, *pica*. See the articles *BULIMY*, *ANOREXY*, &c.

APPLAUSE, *applausus*, or *plausus*, an approbation of something signified by clapping the hands; in which sense it is still practised in colleges and theatres.

APPLE, a well-known fruit, consisting of a rind, pill, or skin; the pulp, or parenchyma; the branchery, or seed-vessels; and the coare.

The apple is not only used as food, but likewise for making cyder. See *CYDER*.

APPLE is also an appellation given to several fruits, on account of their resemblance to the common apple: such are the bitter-apple, love-apple, mad-apple, &c. See the article *BITTER-APPLE*, &c.

APPLE of the eye, a name not unfrequently given to the pupil. See the articles *EYE* and *PUPIL*.

APPLEBY, the chief town of the county of Westmoreland, situated on the river Eden, in $2^{\circ} 26'$ west longitude, and $54^{\circ} 30'$ north latitude. It sends two members to parliament.

APPLICATE, or *Ordinate APPLICATE*, in geometry. See *ORDINATES*.

APPLICATION, in a general sense, is the laying two things together, in order to discover their agreement or disagreement.

APPLICATION, in geometry, is used either for division; for the fitting or applying one quantity to another, whose areas, but not figures, shall be the same; or for transferring a given line into a circle, or other figure, so that its ends shall be in the perimeter of the figure.

APPLICATION, among divines, a term used to signify the same as imputation. See the article *IMPUTATION*.

APPLY, or *APPLYING*, in geometry. See the article *APPLICATION*.

APOGIATURA, in music, a small note inserted by the practical musician, between two others, at some distance.

APOINTE'E, a foot soldier, or officer in the french army, who receives a greater pay than others of the same rank, in consideration of his valour or long service.

APOINTE'E, in heraldry, the same as *aguisee*: thus we say, a cross appointée, to signify that which has two angles at the end cut off, so as to terminate in points.

APPOINTMENT, a pension given by princes and noblemen to retain certain persons in their service. See *PENSION*.

APPORTIONMENT, in law, the division of a rent into parts, in the same manner as the land out of which it issues is divided: for example, if a person leases three acres of land for a certain rent, and afterwards grants away one acre thereof to another: the rent shall be apportioned between them. Conditions, however, are generally entire, and cannot be apportioned by an act of the party; neither can a contract be divided or apportioned so as to subject a man to two actions.

APPOSAL of sheriff's signifies the charging them with money received on their accounts in the exchequer. See the article *SHERIFF*.

APPOSITION, in general, is the putting one thing by the side of another.

APPOSITION, in grammar, the placing two or more substantives together, in the same case, without any copulative conjunction between them; as, *ardabat Alexim delicias domini*.

APPRAISING, the valuing or setting a price on goods. This is usually done by a sworn appraiser, who, if he values the goods too high, is obliged to take them at the price appraised.

APPREHENSION, in logic, the first or most simple act of the mind, whereby it perceives, or is conscious of some idea: it is more usually called perception. See the article *PERCEPTION*.

APPREHENSION, in law, is the seizing a criminal, in order to bring him to justice.

APPRENTICE, a young person bound by indenture to some tradesman, in order to be instructed in the mystery or trade. By the laws of England, a master may be indicted for not providing for, or for turning away his apprentice: and upon complaint from a master, that he neglects his duty, an apprentice may be committed to Bridewell, or be bound over to the sessions. A duty of 6 d. in the pound is granted for every sum of 50 l. or under, and 12 d. in the pound for sums exceeding 50 l. given with all apprentices, except such as are placed out by churchwardens, &c.

APPRENTICESHIP signifies either the condition of an apprentice, or the time he is bound to serve.

APPROACH, or *APPROACHING*, in a general sense, the acceding or coming together of two or more things.

APPROACHES, in fortification, the works thrown

thrown up by the besiegers, in or order to get nearer a fortress, without being exposed to the enemies cannon: such, in a more particular manner, are the trenches, which should be connected by parallels, or lines of communication.

The besieged frequently make counter-approaches, to interrupt and defeat the enemies approaches. See the article COUNTER-APPROACHES.

APPROACHING, in gardening, the inoculating, or ingrafting the sprig of one tree into another, without cutting it off from the parent-tree. This is also called inarching. See the article INARCHING.

APPROACHING, in fowling, a method of getting near the birds by means of a machine, made of hoops and boughs of trees, within which the sportsman conceals himself.

APPROBATION, is defined by Mr. Hutcheson, a state or disposition of the mind wherein we put a value upon, or become pleased with some person or thing.

Moralists are divided on the principle of approbation, or the motive which determines us to approve and disapprove. The Epicureans will have it to be only self-interest; according to them, that which determines any agent to approve his own action, is its apparent tendency to his private happiness; and even the approbation of another's action flows from no other cause but an opinion of its tendency to the happiness of the approver, either immediately or remotely. Others resolve approbation into a moral sense, or a principle of benevolence by which we are determined to approve every kind affection either in ourselves or others, and all publicly useful actions, which we imagine to flow from such affection, without any view therein to our own private happiness.

APPROPRIARE COMMUNAM, in law, is to discommon; that is, to inclose any parcel of land, that before was open and common. See the article COMMON.

APPROPRIARE AD HONOREM, to bring a manor within the liberty of an honour. See the article MANOR and HONOUR.

APPROPRIATE, in law. See the next article.

APPROPRIATION, the annexing a benefice to the proper and perpetual use of a religious house, bishopric, college, &c. Where the king is patron, he may make appropriations himself; but in other cases, after obtaining his licence in chan-

cery, the consent of the ordinary, patron, and incumbent is requisite. Appropriations cannot be assigned over, but those to whom they are granted may make leases of the profits.

APPROVEMENT, among old writers, is generally taken for the same as improvement; but in law is more particularly used for the inclosing part of a common by the lord of the manor.

If, however, there be not sufficient common left for the tenant, he may have a writ of assize and recover triple damages: in such a case also a commoner may break down the inclosures.

APPROVER, in law, one who, confessing that he has committed a felony, accuses one or more of his accomplices. Approvers, moreover, signify bailiffs of lords in their franchises, sheriffs, and likewise such persons as have the letting the king's demesnes in small manors. See BAILIFF, SHERIFF, DEMESNE.

APPROXIMATION, in arithmetic and algebra, the coming nearer and nearer to a root, or other quantity sought, without expecting to be ever able to find it exactly. There are several methods for doing this, to be found in mathematical books, being nothing but infinitely converging series, some approaching quicker, others slower towards the truth.

By such an approximation the value of a quantity may be found, though not to the utmost degree of exactness, yet sufficiently so for practice. Thus $\sqrt{2} = 1.41421356$, &c. = the approximating series $1 + \frac{1}{16} + \frac{1}{160} + \frac{1}{1600} + \frac{1}{16000} +$, &c. or supposing $x = \frac{1}{16}$, equal to the

series $1 \times \frac{4}{x} + \frac{1}{x^2} + \frac{4}{x^3} + \frac{2}{x^4} +$, &c.

$= 1 + 4x^{-1} + x^{-2} + 4x^{-3} + 2x^{-4} +$, &c.

Again, supposing $a^2 + b$ to be a non-quadrature number, and $a^3 + b$ to be a non-cubic one; then will $\sqrt{a^2 + b} =$

$a + \frac{ab}{2a^2 + \frac{1}{2}b}$, and $\sqrt[3]{a^3 + b} = a +$

$\frac{ab}{3a^3 + b} = \frac{1}{2}a + \sqrt{\frac{1}{3}a^3 + \frac{b}{3a}}$ nearly

There is a general method of investigating the value of such series, for which See the article SERIES.

Mr. Mac-Laurin likewise delivers another method of approximation, viz. by the limits of the proposed equation. See the articles LIMIT and EQUATION.

APPUI,

APPUI, in the manege, the sense of the action of the bridle in the horseman's hand. Thus we say, a horse has no appui, when he cannot suffer the bit to bear never so little upon the parts of the mouth. To give a horse a good appui, he should be galloped, and put often back.

APPULSE, in astronomy, the approach of a planet towards a conjunction with the sun, or any of the fixed stars. See the article **CONJUNCTION**.

The appulses of the planets to the fixed stars have always been of great use to astronomers in order to fix the places of the former. The antients wanting an easy method of comparing the planets with the ecliptic, which is not visible, had scarce any other way of fixing their situations, but by observing their tract among the fixed stars, and remarking their appulses to some of those visible points.

Dr. Halley has published a method of determining the places of the planets, by observing their near appulses to the fixed stars.

APPURTENANCES, in common law, signify things corporeal and incorporeal, that appertain to another thing as principal; as hamlets to a manor, and common of pasture and fishery. Things must agree in nature and quality to be appurtenant, as a turbary, or a seat in a church, to a house.

APRICOT, or **APRICOCK**, *armeniaca*, in botany, a species of prunus, with rosaceous flowers, and a delicious fleshy fruit, of a roundish figure. See plate XIX. fig. 6. and the article **PRUNUS**.

APRIL, *aprilis*, in chronology, the fourth month of the year, containing only thirty days.

A PRIORI, a kind of demonstration. See the article **DEMONSTRATION**.

APRON, in gunnery, the piece of lead which covers the touch-hole of a cannon. See the article **CANNON**.

APSIS, in astronomy, a term used indifferently for either of the two points of a planet's orbit, where it is at the greatest or least distance from the sun or earth. Hence the line connecting these points, is called the line of the apses. See the articles **ORBIT** and **PLANET**.

APSIS, among ecclesiastical writers, denotes the inner part of the antient churches, answering to the modern choir.

APSIS is also used for the bill op's throne, and sometimes for the ambo. See the article **AMBO**.

APTE, a small city of Provence, in France,

situated about twenty-five miles north of Aix, in 5° 20' east longitude, and 43° 50' north latitude.

APTERIA, in the linnæan system of zoology, the seventh and last order of insects, the distinguishing characteristic of which is, that the insects comprehended in it, have no wings: such are the louse, the flea, the pedura, the monoculus, the acarus, the spider, the scorpion, and the crab. See the articles **LOUSE**, **FLEA**, &c.

APTHANE, a title antiently given to the highest degrees of nobility in Scotland. See the article **THANE**.

APTITUDE, a term sometimes used to signify the fitness of a thing, to answer a certain purpose.

APTITUDE, or **APTFNESS**, in a more limited sense, is used for quickness or readiness of genius.

APTOTE, *ἀπτότος*, among grammarians, an indeclinable noun, or one which has no variation of cases, as *fas*, *nefas*, &c.

APULIA, in geography. The east side of the kingdom of Naples, which lies along the gulph of Venice, went antiently by this name, but is now known by the name of Capitanata, Terra di Barri, and Otranto.

APUS, in astronomy, a constellation of the southern hemisphere placed near the pole, between the triangulum australe, and the chameleon, supposed to represent the bird of paradise.

There are four stars of the sixth, three of the fifth, and four of the fourth magnitude, in the constellation apus.

Dr. Halley, in 1677, observed the longitude and latitude of the stars in apus, which Hevelius in his prodromus reduced with some alteration to the year 1700.

P. Noel has also given the places of these stars, with their right ascensions and declinations for the year 1687: but his observations differ widely from those of Dr. Halley. Hevelius has represented the figure of apus, and its stars, in his firmamentum sobiescianum, according to Halley's account; Noel has done the like, according to his own account. Wolfius, with what justice we will not pretend to say, gives the preference to this last.

APYCNOS, in music, is said of the diatonic genus, on account of its having spacious intervals, in comparison of the chromatic and enharmonic. See the articles **DIATONIC**, **CHROMATIC**, &c.

APYREXY, *πυρεξία*, among physicians, denotes the intermission of a fever.

AQUA, **WATER**, a term frequently met with

with in the writings of physicians, chemists, &c. for certain medicines, or menstrua, in a liquid form, distinguished from each other by peculiar epithets, as *aqua alexiteria*, *aqua aluminosa*, *aqua fortis*, &c.

AQUA ALEXITERIA, a water distilled from mint, sea-wormwood, and angelica; and said to be good in malignant and pestilential cases.

AQUA ALUMINOSA, ALUM-WATER, a solution of alum and white vitriol; esteemed good in ulcers and cutaneous eruptions.

AQUA FORTIS, a corrosive liquor, being the red fumes which arise in distilling nitre and vitriol. This is a menstruum for dissolving all metals, except gold. It is used by dyers in dying scarlet; by refiners, for parting silver from gold; by book-binders, to marble the covers of books; by diamond-cutters, to separate diamonds from metalline powders; by engravers, for etching on copper or brass plates; by workers in mosaic work, and also for staining woods, bone, ivory, &c.

AQUA MARINA, or **AQUA MARINE**, a name by which the jewellers call the beryl, on account of its sea-green colour. See the article **BERYL**.

AQUA MERCURIALIS, a solution of sublimed mercury, and a little mercury, in *aqua regia*; by means of which the alchemists pretend to reduce all metals to their first principle, mercury.

AQUA OMNIUM FLORUM, in pharmacy, the water distilled from the dung of cows, when they go to graze: in english, all-flower-water.

AQUÆ PAVOR, in medicine. See the article **HYDROPHOBIA**.

AQUA REGIA, a kind of *aqua fortis*, or acid spirit, in which there is a small proportion of sea-salt. It is prepared several ways: the most common method is, by mixing common salt, sal gem, or sal ammoniac, whether native or factitious, with *aqua fortis*, or spirit of nitre. But as the basis, or essential ingredient is common or sea-salt, this will always answer the purpose, in whatever form applied, whether as a fluid or a solid, a liquor or a spirit.

Aqua regia is so called, because it dissolves gold: it will also dissolve iron, copper, tin, mercury, regulus of antimony, bismuth, and zink. It does not at all affect silver, provided the sea-salt be mixed in a due proportion; but if the

quantity is too small, it then corrodes the silver.

AQUA SECUNDA, denotes *aqua fortis*, which has been used to dissolve some metal.

AQUA SULPHURATA, the same with *gas sulphuris*. See the article **GAS**.

AQUA VITÆ, the **WATER OF LIFE**, a name given to malt spirits, in contradistinction from brandy. See the articles **BRANDY** and **SPIRIT**.

AQUA VITRIOLICA COERULEA, a solution of blue vitriol and alum, with some spirit of vitriol, in water; recommended in inflammatory and putrid cases.

AQUÆDUCT, in hydraulics and architecture, a conveyance made for carrying water from one place to another. Those of the antient romans were surprisingly magnificent. That which Lewis XIV. built near Maintenon, for carrying the *Bucq* to Versailles, is perhaps the greatest now in the world: it is seven thousand fathoms long, with two thousand five hundred and sixty fathoms of elevation, and contains two hundred and forty-two arcades.

AQUÆDUCT, in anatomy, a term applied by anatomists, to certain canals, on account of their form or use: such are the aquæduct of Fallopius, a canal situated between the apophyses styloides, and mastoides; the aquæduct of Nuck, in the sclerotic coat of the eye; and the aquæduct of Sylvius, in the brain, the posterior surface of which is called its anus. See **STYLOIDES**, **SCLEROTICA**, &c.

AQUARIANS, *aquarii*, in church-history, an antient sect of heretics, who, under pretence of abstinence, made use of water instead of wine in the eucharist.

AQUARIUS, in astronomy, a constellation, which makes the eleventh sign in the Zodiac, marked thus, ♒. It consists of forty-five stars in Ptolemy's catalogue, of forty in Tycho's, and in the Britannic catalogue of ninety-nine. It was called *Aquarius*, or the water-bearer, as some say, because, during the sun's motion through this sign, it is generally rainy weather.—The poets tell us that Jupiter, having ravished Ganymede, carried her away into heaven, to serve as cup-bearer in the room of Hebe and Vulcan; whence the name.

AQUATIC, in natural history, an appellation given to such things as live or grow in the water: thus we say, aquatic animals, aquatic plants, &c.

AQUEDUCT,

AQUEDUCT, the same with aquæduct.

See the **AQUÆDUCT**.

AQUELEIA, a patriarchal city of Italy, near the end of the gulph of Venice, situated in $13^{\circ} 30'$ east long. and $46^{\circ} 20'$ north latitude.

AQUEOUS, *aquosus*, in a general sense, something partaking of the nature of water, or that abounds with it: thus we say, aqueous baths, ducts, &c. See the articles **BATH** and **DUCT**.

AQUEOUS HUMOUR, in anatomy, called also the albugineous humour, is the utmost of the three humours of the eye, and fills up both its cameræ. In this the uvea fluctuates as it were, and moves at liberty; this humour also, when lost, will be repaired by nature.

AQUIFOLIUM, **HOLLY**, in botany. See plate XX. fig. 2. and the article **HOLLY**.

AQUILA, the **EAGLE**, in ornithology, See the article **EAGLE**.

AQUILA, in astronomy, a constellation of the northern hemisphere, consisting of fifteen stars in Ptolemy's catalogue, of seventeen in Tycho's, and of seventy in the Britannic catalogue.

AQUILA, in geography, a large city of Abruzzo, in the kingdom of Naples, situated in $14^{\circ} 20'$ east longit. and $42^{\circ} 40'$ north latitude.

AQUILEGIA, **COLUMBINE**, in botany, a genus of the polyandria pentagynia class of plants, having no calyx: the corolla consists of five plane, patent, equal petals, of a lanceolate, ovate figure; the nectaria are five in number; they are equal, and stand alternately with the petals: the fruit consists of five strait, parallel, cylindric, acuminate capsules, each of which consists of a single valve. The seeds are numerous, oval, carinated, and adhere to the future. See plate XX. fig. 1.

Aquilegia is recommended in disorders of the breast and lungs, in malignant cases, the menses, &c.

AQUILICIUM, or **AQUILICIANA**, in roman antiquity, sacrifices performed in times of excessive drought, to obtain rain of the gods.

AQUILINE, something belonging to, or resembling an eagle: thus, an aquiline nose is one bent somewhat like an eagle's beak.

AQUINO, a ruinous city in the province of Lavoro, in the kingdom of Naples, situated in $14^{\circ} 30'$ east longitude, and $41^{\circ} 30'$ north latitude.

AQUOSE, the same with aqueous. See the article **AQUEOUS**.

ARA, in astronomy, a southern constellation, consisting of eight stars.

ARABET, a town of turkish Tartary, situated near the Palus Mæotis. It is fortified with two castles, and is the place where the kan keeps his stud of horses, which are reckoned to be about seven thousand in number.

ARABIA, a large country of Asia, having Turkey on the north, Persia and the gulph of Persia on the east, the indian ocean on the south, and the Red-sea and isthmus of Suez on the west; and situated between 35° and 60° east longitude, and between 12° and 30° north latitude.

Arabia, though subject to a great many different princes, is only considered by geographers as subdivided into the three grand divisions of Arabia Felix, Arabia Deserta, and Arabia Petrea.

ARABIAN, or **ARABIC**, in a general sense, something belonging to Arabia: thus we say, arabian characters, arabian language, &c.

Gum **ARABIC**, the name of a gum which distils from a species of acacia, growing in Arabia and Egypt. It is very common among us, but little is to be met with genuine: that is accounted the best which is in smaller pieces, and almost of a white colour. It is good in all kinds of fluxes, particularly catarrhs.

ARABICI, a sect of heretics, who held that the soul both dies and rises again with the body.

ARABIS, in botany, a genus of the tetradynamia siliquosa class of plants, the calyx of which is a deciduous perianthium, consisting of four ovato-oblong, acute, gibbous, concave leaves; the corolla consists of four oval, patent, cruciform petals: the fruit is a very long compressed pod, containing several roundish compressed seeds.

ARABISM, in matters of language, an idiom peculiar to the arabian language.

ARABLE LANDS, those which are fit for tillage, or which have been formerly tilled.

ARAC, **ARRAC**, or **RACK**. See the article **RACK**.

ARACAN, the capital city of a small kingdom, situated on the north-east part of the gulph of Bengal, in 93° east long. and $20^{\circ} 30'$ north lat.

ARACARI, in ornithology, a brasilian bird of the *picæ* or magpye kind. The aracari is a species of ramphastos with a red rump. See plate XX. fig. 3.

ARACHIS, in botany, a genus of the didadelphia-decandria class of plants, the

flower of which is papilionaceous, and consists of three petals; and its fruit is an oblong unilocular pod, contracted in the middle, and containing two oblong, obtuse, and gibbous seeds.

ARACHNOIDES in zoology, a name given to those *echini marini*, or sea-hedgehogs, which are of a circular form, but variously indented at the edges. See the article **ECHINUS**.

ARACHNOIDES, in anatomy, an appellation given to several different membranes, as the tunic of the crystalline humour of the eye, the external lamina of the pia mater and one of the coverings of the spinal marrow.

ARÆOMETER, an instrument to measure the gravity of liquors, which is usually made of a thin glass ball, with a taper neck, sealed at the top, there being first as much mercury put into it as will keep it swimming in an exact posture. The neck is divided into parts, which are numbered, so that by the depths of its descent into any liquor, its lightness may be known by these divisions. The reader will find this instrument more particularly described under the article **HYDROMETER**.

ARÆOPAGUS, or **AREOPAGUS**. See the article **AREOPAGUS**.

ARÆOSTYLE, in architecture, a term used by Vitruvius, to signify the greatest interval which can be made between columns, which consists of eight modules, or four diameters. See **MODULE**.

ARÆOTICS, in medicine, remedies which rarefy the humours, and render them easy to be carried off by the pores of the skin.

ARAFAT, a mountain of Arabia, near Mecca, where the mahometans believe that Abraham offered to sacrifice Isaac.

ARAGON, a province of Spain, having Biscay and the Pyrenean mountains on the north, Catalonia on the east, Valencia on the south, and the two Castiles on the west.

ARAIGNEE, in fortification, signifies the branch, return, or gallery of a mine. See the article **MINE**.

ARALIA, **BERRY BEARING ANGELICA**, in botany, a genus of the pentandria pentagynia class of plants, the flowers of which are collected into an umbel, of a globose figure, with a very small involucre; the perianthium is very small, divided into five parts, and placed on the germen; the corolla consists of five, ovato-acute, sessile, reflex petals: the fruit is a roundish, coronated, situated

berry; having five cells: the seeds are single, hard, and oblong.

ARANEA TUNICA, or **ARANEOSA**. See the article **ARACHNOIDES**.

ARANEUS, the **SPIDER**, in zoology. See the article **SPIDER**.

ARANJUEZ, a palace belonging to the king of Spain, beautifully situated on the bank of the Tagus, about fifteen or sixteen miles eastward of Madrid.

ARARAT, the antient name for part of mount Caucasus, between the Euxine and Caspian seas.

ARAUCO, a city of Chili, in south America, situated on a river of the same name, in 78° west lon. and 37° south lat.

ARBE, an island in the gulph of Venice, situated near the coast of Morlachia, in 16° east long. and 45° north lat.

ARBITER, in civil law, a judge nominated by the magistrate, or chosen voluntarily by two parties, in order to decide their differences according to law.

The civilians make this difference between arbiter and arbitrator: though both ground their power on the compromise of the parties, yet their liberty is different, for an arbiter is to judge according to the usages of the law, but the arbitrator is permitted to use his own discretion, and accommodate the difference in the manner that appears to him most just and equitable.

ARBITRAGE, the same with arbitration. See the article **ARBITRATION**.

ARBITRARY, that which is left to the choice or determination of men, or not fixed by any positive law or injunction: thus arbitrary fines, are mulcts imposed at the pleasure of the court or judge. See the article **AMERCIAMENT**.

ARBITRARY POWER. See **DESPOTICAL**.

ARBITRATION, **ARBITRAGE**, or **ARBITREMENT**, a power given by two or more contending parties to some person or persons to determine the dispute between them. There are five things incident to an arbitration: 1. Matter of controversy. 2. Submission. 3. Parties to the submission. 4. Arbitrators. 5. Giving up the arbitration. Matters relating to a freehold, debts due on bond, and criminal offences are not to be arbitrated, **ARBITRATOR**, a private extraordinary judge, chosen by the mutual consent of parties, to determine controversies between them. Arbitrators are to award what is equal between both parties, and the performance must be lawful and possible. An action of debt may be brought for

for money adjudged to be paid by arbitrators.

ARBITREMENT. See the article **ARBITRATION**.

ARBOIS, a town of Franch Compté, in France, situated in $5^{\circ} 40'$ east longitude, and $46^{\circ} 50'$ north latitude.

ARBON, a town of Swabia, in Germany, situated in $9^{\circ} 30'$ east long. and $47^{\circ} 40'$ north latitude.

ARBOR DIANÆ. See the article **DIANÆ ARBOR**.

ARBOR GENEALOGICA. See the article **GENEALOGICA ARBOR**.

ARBOR LUNÆ, or **ARBOR PHILOSOPHICA**, the same with *arbor diane*.

ARBOR SCIENTIÆ, a general distribution or scheme of science, or knowledge: such is that annexed to the *Introduction* to this *Dictionary*.

ARBOR, in mechanics, the principal part of a machine which serves to sustain the rest: also the axis or spindle on which a machine turns, as the arbor of a crane, windmill, &c. See the articles **CRANE**, **WINDMILL**, &c.

ARBOREOUS, something belonging to, or partaking of the nature of trees: thus mosses, &c. growing on trees, are called arboreous.

ARBORESCENT, a term applied to all such things as resemble trees, thus we read of arboreseent shrubs, arboreseent animals, &c. of which last kind is that great natural curiosity the star-fish.

ARBORIST, a person skilled in that part of botany, which treats of trees. See the article **BOTANY**.

ARBOUR, in gardening, a kind of shady bower, formerly in great esteem, but of late rejected, on account of its being damp and unwholesome.

Arbours are generally made of lattice-work, either in wood or iron, and covered with elms, limes, hornbeams; or with creepers, as honeysuckles, jasmines or passion flowers; either of which will answer the purpose very well, if rightly managed.

ARBUTUS, the **STRAWBERRY-TREE**, in botany, a genus of the decandria monogynia class of plants, the calyx of which is a very small obtuse, permanent perianthium, divided into five segments: the corolla consists of a single oval petal, divided also into five segments; the fruit is a roundish berry, containing five cells, and small osseous seeds. See plate XX. fig. 4.

ARC, **ARK**, or **ARCH**. See **ARCH**.

ARCA CORDIS, the same with *pericardium*. See the article **PERICARDIUM**.

ARCADIA, a sea-port town of european Turkey, situated on the western coast of the Morea, in 22° east longit. and $37^{\circ} 20'$ north lat.

ARCANUM, among physicians, a kind of remedy, the preparation of which is industriously concealed, in order to enhance its value; at present there are three remarkable remedies which pass under that specious name, viz. *arcanum corallinum*, *arcanum duplicatum*, and *arcanum joviale*.

The *arcanum corallinum* is a preparation of red precipitate, made by distilling it with the spirit of nitre, and repeating the distillation, again and again, till a fine red powder be procured. This powder, boiled in water, and the water poured off, and tartarised spirit of wine put to the powder; two or three cohobations are made: which leave a powder much like the prince's powder; said to be of great service in the gout, dropsy, scurvy, &c. It operates chiefly by stool.

The *arcanum duplicatum* is prepared of the caput mortuum of aqua fortis, by dissolving it in hot water, filtrating and evaporating it to a cuticle; and then leaving it to shoot. This is said to be an admirable medicine in hypochondriacal cases, in continued and intermitting fevers, in the stone, scurvy, &c. and is extolled as a diuretic and sudorific.

The *arcanum joviale* is made of an amalgama of mercury and tin digested in spirit of nitre; the spirit being drawn off, the remaining matter is wetted with spirit of wine, and the spirit burnt away, and this for several times, till the pungent taste is wholly gone; the remainder is used much with the same intentions as the antihecticum Poterii. See the article **ANTIHECTICS**.

ARCBOUTANT, in building, an arched buttress. See the article **BUTTRESS**.

ARCH, in geometry, any part of the circumference of a circle, or curved line, lying from one point to another, by which the quantity of the whole circle or line, or some other thing sought after, may be gathered.

Similar ARCHES. If the arch BC (plate XX. fig. 5.) contains the same number of degrees as the arch DE; or if the radius AB is to the radius AD, as the arch BC to the arch DE; then these two arches are similar.

Equal

Equal ARCHES, those which contain the same number of degrees, and whose radii are equal.

Diurnal ARCH, that part of a circle described by a heavenly body, between its rising and setting; as the nocturnal arch is that described between its setting and rising: both these together are always equal.

ARCH of progression, or direction, an arch of the Zodiac, which a planet seems to pass over, when its motion is according to the signs.

ARCH of retrogradation, an arch of the Zodiac, described by a planet, while it is retrograde, or moves contrary to the order of the signs.

ARCH, in architecture, a concave building, with a mold bent in form of a curve, erected to support some structure. Arches are either circular, elliptical, or strait, as they are improperly called by workmen. Circular arches are also of three kinds: 1. Semicircular, which have their center in the middle of a line drawn betwixt the feet of the arch. 2. Scheme, or skene, which are less than a semicircle, containing some ninety, and some seventy degrees. 3. Arches of the third and fourth point, consisting of two arches of a circle meeting in an angle at the top, being drawn from the division of a chord into three or more parts at pleasure.

Elliptical arches consist of a semi-ellipsis, and have commonly a key-stone and impost: they are usually described by workmen on three centers.

Strait arches are those used over doors and windows, having plain strait edges, both upper and under, which are parallel, but both the ends and joints point towards a center.

Triumphal ARCH, a stately gate of a semicircular form, adorned with sculpture, inscriptions, &c. erected in honour of those who had deserved a triumph.

ARCH is also used to denote the interval between two piers of a bridge. See **BRIDGE**.

ARCHÆUS, or **ARCHEUS**. See **ARCHEUS**.

ARCHANGEL, an angel occupying the eighth rank in the celestial hierarchy. See the article **HIERARCHY**.

ARCHANGEL, in botany, a name sometimes given to the lamium. See the article **LAMIUM**.

ARCHANGEL, in geography, a city of the province of Dwina, in Russia, situated four miles from the white-sea, in $40^{\circ} 12'$ east long. and $64^{\circ} 30'$ north lat.

ARCHBISHOP, a prelate who has several suffragan bishops under him.

We have only two archbishops in England; the archbishop of Canterbury, who is primate of all England; and the archbishop of York, who is only styled primate of England. The first establishment of archbishops in England, according to Bede, was in the time of Lucius, said to be the first christian king in Britain; who, after the conversion of his subjects, erected three archbishoprics, viz. at London, York, and Landaff, then called Caerleon. The dignity of archbishop continued in the see of London 180 years, till it was translated, in the time of the Saxons, to that of Canterbury, where it has continued ever since. And York continues still a metropolitan see. The archbishopric of Caerleon was translated to St. David's; but the plague raging very much in that country, it was removed to Doll in Bretagne, where that dignity terminated.

ARCHBISHOPRIC, in ecclesiastical geography, a province subject to the jurisdiction of an archbishop.

ARCHBUTLER, one of the great officers of the german empire, who presents the cup to the emperor, on solemn occasions. This office belongs to the king of Bohemia.

ARCHCHAMBERLAIN, an officer of the empire, much the same with the great chamberlain in England. The elector of Brandenburg was appointed, by the golden bull, archchamberlain of the empire.

ARCHCHANCELLOR, an high officer, who, in antient times, presided over the secretaries of the court. Under the two first races of the kings of France, when their territories were divided into Germany, Italy, and Arles, there were three archchancellors; and hence the three archchancellors still subsisting in Germany, the archbishop of Mentz being archchancellor of Germany, the archbishop of Cologne of Italy, and the archbishop of Treves of Arles.

ARCHCHANTOR, the president of the chantors of a church.

ARCHDEACON, an ecclesiastical dignitary or officer, next to a bishop, whose jurisdiction extends either over the whole diocese, or only a part of it.

We have sixty archdeacons in England, who visit the parishes subject to their jurisdiction; enquire into abuses, suspend, excommunicate, &c. They likewise instruct all clerks into their benefices.

ARCH-

ARCHDUKE, a title given to dukes of greater authority and power than other dukes. The archduke of Austria is among the most antient: his principal privileges are, that he shall distribute justice in his own country, without appeal; that he cannot be deprived of his countries, even by the emperor and the states of the empire; and that he have a power of creating counts, barons, &c. throughout the whole empire. See the article **DUKE**.

ARCHED, in a general sense, denotes something built or constructed in the fashion, or after the manner, of an arch.

ARCHED SKENE. See the article **ARCH**.

ARCHED LEGS, a fault in a horse, when his knees are bended arch-wise.

This expression relates to the fore quarters, and the infirmity happens to such horses as have their legs spoiled with travelling.

ARCHER, in the antient military art, one who fought with bows and arrows.

The english archers were esteemed the best in Europe, to whose prowess and dexterity the many victories over the French were in a great measure owing.

ARCHES, or *Court of ARCHES*, the supreme court belonging to the archbishop of Caisterbury, to which appeals lie from all the inferior courts within his province.

ARCHETYPE, the first model of a work, which is copied after to make another like it. Among minters it is used for the standard weight by which the others are adjusted. The archetypal world, among platonists, means the world as it existed in the idea of God, before the visible creation.

ARCHEUS, among chemists, an obscure term used generally to denote the predominating principle of things, whereby their peculiar qualities are fixed and determined.

ARCHILOCHIAN, a term in antient poetry applied to a sort of verses, of which Archilochus was the inventor, consisting of seven feet, the four first whereof are ordinarily dactyls, though sometimes spondee, the three last trochees: as in Horace,

*Solvitur acris hyems, gratâ vice veris
& Favoni.*

These verses are also called dactylic, because of the four dactyls at the beginning. It is usual to mix iambics of six feet wanting a syllable, alternately with Archilochians, as in the above ode.

ARCHIPELAGO, in geography, a general term for a sea interrupted with

islands; but more especially denoting that between Greece and Asia.

ARCHITECT, a person skilled in architecture, who not only draws the plans of edifices, but superintends and directs the artificers.

ARCHITECTONIC, that which regularly produces a thing, according to its nature and properties.

Thus that power, whatever it be, which produces living creatures from the ova of females, is, by some, called the architectonic spirit.

ARCHITECTURE, the art or science of erecting edifices, whether for habitation or defence; and hence subdivided into civil, military, and naval.

Civil **ARCHITECTURE**, called absolutely, and by way of eminence, architecture, teaches how to make any kind of buildings, as palaces, churches, private houses, &c. and the rules to be observed in it are solidity, convenience, and beauty, to which some add, order, disposition, proportion, decorum, and œconomy. Solidity implies the choice of a good foundation, and sound materials; convenience consists in so ordering the parts of an edifice that they may not embarrass one another; beauty is that agreeable form and pleasing appearance, which it exhibits to the eye of a spectator; order gives each part of the building a convenient bigness, whether considered apart, or with relation to the whole; and disposition is the agreeable union of all the parts. Proportion is the relation that all the work hath to its parts, and which every one separately hath to the whole; decorum teaches to have a regard to design, custom, and nature; and œconomy to consider the expences, in order to regulate the form and magnitude of the fabric.

With respect to the several periods and states of architecture, it is distinguished into antient, gothic, and modern. The Greeks and Romans were so happy in adjusting the various proportions of an edifice, that any neglect of their rules has been found to be a deviation from proportion and beauty itself. It is for this reason that the moderns have retrieved the primitive simplicity of antient architecture, which, upon the decline of the western empire, was lost in the general confusion of arts and sciences, being succeeded by the gothic and moresk, so called from the Goths and Moors. These made perfection to consist in the delicacy and

and multitude of the ornaments, which they bestowed on their buildings, with abundance of care, as may be seen in most of the antient structures in England and other parts of Europe.

The manner then, of the antients being reputed the standard of beauty and grandeur, another division of architecture arises from the different proportions observed by them in different buildings; according to the bulk, strength, delicacy, richness, or simplicity required. This consists of five orders, all invented at different times, and on different occasions, *viz.* tuscan, doric, ionic, corinthian, and composite. See the articles ORDER, TUSCAN, DORIC, &c.

Of all the antient writers of architecture, Vitruvius is the only intire author.

The most celebrated of those who have treated that subject, since his time, are Baptista Alberti, Palladio, Scamozzi, Blondel, Goldman, Mr. Perault, Sir H. Wotton, Sturmius, and Wolfius.

Military ARCHITECTURE, the same with what is otherwise called fortification. See the article FORTIFICATION.

Naval ARCHITECTURE, the art of building ships. See *Construction of SHIPS*.

Counterfeit ARCHITECTURE, that which consists of projections, painted in black or white, or in colours after the manner of marble, which is also called scene-work, in the painting of columns, &c. for the decoration of theatres.

ARCHITECTURE, in perspective, a sort of building, the members of which are of different modules, and diminish proportionably to their distance, in order to make the work appear longer to the view than it really is.

ARCHITRAVE, in architecture, that part of a column, or order of columns, which lies immediately upon the capital; being the lowest member of the entablature, and so called from its representing the principal beam in timber-buildings. See the article ENTABLATURE.

Over a chimney, this member is called the mantle-piece; and over doors or windows, the hyperthyron.

Authors are very different in their dimensions of architraves, and even with regard to the number of members it is composed of.

The tuscan architrave, according to Vitruvius, should consist of two fasciæ and a cymatium, and be half a module in height.—The doric should be of the same

height as the tuscan, and consist of a tænia and five fasciæ.—The ionic should be composed of three fasciæ and a cymatium, and of the same height as before. The corinthian architrave should be allowed a greater altitude than the former, and consist of a cymatium and five fasciæ. The composite architrave, frieze, and cornish he makes of an equal height, and each equal to the diameter of the column just under the capital, which is ten twelfths of a module.

ARCHITRAVE Doors, are those which have an architrave on the arch, if the top be curved; but, if straight, upon the cap-piece.

ARCHITRICLINUS, *Ἀρχιτρικλινός*, in antiquity, the master or director of a feast, charged with the order and oeconomy of it, the covering and uncovering of the tables, the command of the servants, and the like.

The word architriclinus properly imports the chief or master of a triclinium or dining room. His office properly differed from that of *modimperator*, or *arbiter bibendi*, as the latter was appointed by the guests, the architriclinus by the person who gave the feast.

ARCHITYPE. See the article ARCHETYPE.

ARCHIVALT, in architecture, the inner contour of an arch, or a band adorned with mouldings running over the faces of the arch-stones, and bearing upon the imposts. It has only a single face in the tuscan order, two faces crowned in the doric and ionic, and the same mouldings with the architrave in the corinthian and composite.

ARCHIVE, or **ARCHIVES**, an apartment, in which are deposited the records, charters, and other papers of a state or community. The archives of the court of chancery are in the rolls office.

ARCHIMARSHAL, the grand marshal of the empire, a dignity belonging to the elector of Saxony.

ARCHON, *ἄρχων*, in grecian antiquity, the chief magistrate of Athens, after the abolishing of monarchy; and also, the appellation given to several officers, both civil and religious, under the greek empire. Thus we read of the archon of the gospel, the archon of the walls, &c.

ARCHONTICI, in church-history, a branch of Valentinians, who maintained that the world was not created by God, but by angels called archontes.

ARCH-

ARCHPRIOR, a name by which the master of the order of the knights-templars was sometimes called.

ARCHTREASURER, the great treasurer of the german empire, a dignity belonging to the duke of Brunswic, king of Great Britain, but also claimed by the elector palatine.

ARCO, a town in the bishoprick of Trent in Italy, situated about sixteen miles south west of Trent, in $10^{\circ} 46'$ east longitude, and 46° north latitude.

ARCTIC, *arcticus*, in astronomy, an epithet given to the north pole, and likewise to a circle of the sphere, parallel to the equator, and twenty-three degrees thirty minutes distant from the north pole. See the article **POLE**.

ARCTIUM, the **BURDOCK**, in botany, a genus of the syngenesia polygamia æqualis class of plants; the common calyx of which is globose, and imbricated; the compound flower is tubulated and uniform, with equal hermaphrodite corollulæ: the proper flower is monopetalous and tubulous, with a slender and very long tube; there is no pericarpium; the cup is connivent, and the seed single, vertically pyramidical, and crowned with a simple down shorter than the seed.

The roots, leaves and seeds of this plant are used in medicine, and said to be sub-astringent and diuretic, and good in the asthma, spitting of blood, &c. The seed is esteemed a powerful lithontriptic.

ARCTOPHYLAX, a constellation otherwise called boötes. See **BOÖTES**.

ARCTOPUS, in botany, a genus of the polygamia dioecia class of plants, the general umbel of which is long and unequal; the partial umbel is shorter; the involucre consist of five leaves; the corolla of five petals; the fruit is single and bilocular, and stands under the receptacle of the floscule: the seed is single, cordated and acuminate.

ARCTOTIS, in botany, a genus of the syngenesia polygamia necessaria class of plants, the common calyx of which is roundish and imbricated; the compound flower is radiated; the hermaphrodite corollulæ are tubulous and numerous in the disk: the proper hermaphrodite flowers are funnel-shaped; there is no pericarpium; the seed is single, roundish and hairy.

ARCTURUS, a fixed star of the first magnitude, in the skirt of boötes.

ARCTUS, *arcticus*, in astronomy, the greek name for the ursa major and minor. See the article **URSA**.

VOL. I.

ARCUATION, in gardening, the raising of trees by layers, which is done thus. Strong mother plants, or stools, must be planted in a clean border in a straight line, six feet asunder; and when they have shot five or six main branches from the root, and as many collateral branches, these main branches must be bent to the ground; for which reason, some cut them half through, and peg them fast down.

The small branches must be covered three inches thick upon the joints, and have a large basin of earth made round them to hold the water.

Some persons give the branches a twist, to make them root the sooner.

ARCUATION, in surgery, denotes a distortion or incurvation of the bones, as happens in the rickets, &c.

ARCUTIO, *arcuccio*, a machine consisting of hoops used in Florence by nurses, in order to prevent the child from being overlaid. Every nurse is obliged to lay her child in an arcutio, under pain of excommunication.

ARDEA, the **HERON**, in ornithology, a genus of long-beaked birds; distinguished from all others by having the middle toe of each foot serrated, or jagged, with a series of scales on its outer side. This genus comprehends likewise the bittern, stork, crane, &c.

ARDENBURG, a fortified town of dutch Flanders, situated about twelve miles north east of Bruges, in $3^{\circ} 20'$ east longitude, and $51^{\circ} 15'$ north latitude.

ARDENNE, a forest in Germany, lying between Thionville and Liege.

ARDENT, *ardens*, something that is extremely hot, as if on fire: thus, we say, an ardent fever, &c. See **FEVER**.

ARDERS, among farmers, denotes the fallowings, or ploughings of grounds. See the article **FALLOWING**.

ARDEVIL, or **ARDEBIL**, the burying place of some of the ancient kings of Persia, situated in $64^{\circ} 20'$ east longitude, and 36° north latitude.

ARDRES, a town of the province of Picardy in France, situated about ten miles south of Calais, in 2° east longitude, and $50^{\circ} 45'$ north latitude.

ARDRES, or **ARDEA**, is also the capital of a country on the slave coast of Guinea in Africa, situated near the river Lagos, in 4° east longitude, and 5° north latitude.

AREA, in geometry, denotes the superficial content of any figure; thus, if we suppose a parallelogram six inches long,

B b

and

and four broad, its area will be $6 \times 4 = 24$ square inches.

The method of finding the areas of different figures, as triangles, circles, &c. will be given under the articles TRIANGLE, CIRCLE, &c.

AREA, among physicians, the same with the alopecia. See the article ALOPECIA.

AREBON, a town of Guinea in Africa, situated at the mouth of the river Formosa, in 1° east long. and 5° north lat.

ARECA, in botany, a genus of plants, the characters of which are not perfectly ascertained; the calyx of the male flower is a bivalve spathe, the spadix is ramose; the corolla consists of three acuminate petals; the stamina are nine filaments, of which the three exterior ones are the longest; the female flowers are in the same spadix and spathe; the corolla is like the male corolla; the fruit is a sub-oval fibrose drupe, surrounded at the base with an imbricated calyx, and containing an oval seed.

This plant is a kind of palm tree, that grows naturally in the East Indies, where it is regarded as a strengthener of the stomach, and supposed to carry off every thing that might corrupt the gums.

AREMBERG, a city of Germany, situated about twenty-five miles south of Cologne, in $6^{\circ} 25'$ east longitude, and $50^{\circ} 30'$ north latitude.

ARENA, SAND, in natural history. See the article SAND.

ARENA, in roman antiquity, a place where the gladiators fought: so called from its being always strewed with sand, to conceal from the view of the people, the blood spilt in the combat.

ARENARIA, comprehending the small MANY-STALKED CHICKWEED, and the PURPLE SPURREY, in botany, is a genus of the decandria digynia class of plants; the calyx is a perianthium consisting of five oblong, acuminate, patent and permanent leaves; the corolla consists of five oval petals; the fruit is an oval covered capsule, containing one cell, in which are several kidney-shaped seeds.

ARENATION, *arenatio*, a kind of dry bath, wherein the patient sits with his bare feet on hot sand.

AREOMETER, or *ARÆOMETER*. See the article *ARÆOMETER*.

AREOLA, among anatomists, the coloured circle surrounding the nipple of the breast.

AREOPAGUS, or *ARÆOPAGUS*, *ἀρεοπαγος*, in grecian antiquity, a sovereign

court at Athens, so famous for the justice and impartiality of its decrees, that the gods themselves are said to have submitted their quarrels to its determination.

AREOSTYLE, or *ARÆOSTYLE*. See the article *ARÆOSTYLE*.

AREOTICS, or *ARÆOTICS*. See the article *ARÆOTICS*.

AREQUIPPA, a city of Peru, in south America, situated in 73° west longitude and 17° south latitude.

ARETHUSA, in botany, a genus of the gynandria decandria class of plants, having no other calyx than a foliaceous spathe: the corolla is ringent and consists of five oblong, sub-equal petals: the nectarium consists of a single leaf, divided into two segments; the fruit is an oblong oval capsule, consisting of three valves, and containing one cell, in which are several seeds.

ARETIA, in botany, a genus of the pentandria monogynia class of plants, the calyx of which is a perianthium, consisting of a single campanulated, semiquinquefid, and permanent leaf, without any involucre: the corolla consists of a single petal, the tube is oval, and of the length of the cup; the limb is divided into four segments; and the fruit is a capsule, in which are contained many seeds.

AREZZO, a city of Tuscany, in Italy; situated in $13^{\circ} 15'$ east longitude, and $43^{\circ} 15'$ north latitude.

ARGEA, or *ARGBI*, in roman antiquity, thirty human figures, made of rushes thrown annually by the priests or vestals into the Tiber, on the day of the ides of May.

ARGEMONE, in botany, a genus of the polyandria monogynia class of plants, the calyx of which is a roundish spathe, composed of three hollow pointed deciduous leaves: the corolla consists of five three roundish, erecto-patent petals, larger than the cup: the fruit is an oval pentangular capsule, containing one cell, and seeming as if formed of five valves; the seeds are numerous and very small; the receptacles are linear, and grow to the angles of the pericarpium: they do not burst.

ARGENT, in heraldry, the white colour in the coats of gentlemen, knights, and baronets: the white in the arms of the sovereign princes is called luna, and that in the arms of the nobility pearl: this is expressed in engraving, by the parts being left plain, without any strokes from the

the graver. See plate XX. fig. 7.

ARGENTARIA, CRETA, in natural history, a perfectly pure white earth, found in Prussia, and much esteemed for cleaning plate.

ARGENTIERE, a small island in the Archipelago, situated about sixty miles east of the Morea, in 25° east longitude, and 37° north latitude.

ARGENTINA, in ichthyology, a genus of malacopterygious fishes, with an oblong cylindrical body, and teeth on the tongue and palate.

ARGENTON, a town of France, situated about forty-five miles south-west of Bourges, in $1^{\circ} 35'$ east longitude, and $46^{\circ} 40'$ north latitude.

ARGENTUM, SILVER, in natural history. See the article **SILVER**.

ARGILLA, CLAY, in natural history. See the article **CLAY**.

ARGO, in astronomy, a constellation of fixed stars in the southern hemisphere, whose number of stars in Ptolemy's catalogue is 8, in Tycho's 11, and in Mr. Flamsteed's 25. See **CONSTELLATION**.

ARGONAUTS, in grecian antiquity, a company of illustrious Greeks, who embarked along with Jason in the ship Argo, on an expedition to Colchis, with a design to obtain the golden fleece: Hence,

ARGONAUTIC EXPEDITION, in chronology. See the article **EPOCH**.

ARGOS, a sea-port town of european Turkey, in the Morea, situated on the bay of Napoli de Romania, in 23° east longitude, and $37^{\circ} 30'$ north latitude.

ARGUMENT, argumentum, in rhetoric and logic, an inference drawn from premises, the truth of which is indisputable; or at least highly probable.

The arguments of orators receive particular denominations, according to the topics from whence they are derived; thus, we meet with arguments from affection, which interest the passions of the person to whom they are addressed; also with arguments *a tuto, ad ignaviam, ab invidia*, &c.

In reasoning, Mr. Locke observes, that men ordinarily use four sorts of arguments. The first is to alledge the opinions of men, whose parts and learning, eminency, power, or some other cause, has gained a name, and settled their reputation in the common esteem, with some kind of authority; this may be called *argumentum ad verecundiam*. Secondly, another way is to require the adversaries to admit what they alledge as a proof, or to assign a better; this he

calls *argumentum ad ignorantiam*. A third way is, to press a man with consequences, drawn from his own principles or concessions; this is known by the name of *argumentum ad hominem*. Fourthly, the using proofs drawn from any of the foundations of knowledge or probability; this he calls *argumentum ad judicium*; and observes, that it is the only one of all the four, that brings true instruction with it, and advances us in our way to knowledge. For, 1. It argues not another man's opinion to be right, because I, out of respect, or any other consideration, but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the same with him, because I know not a better. 3. Nor does it follow, that another man is in the right way, because he has shewn me, that I am in the wrong: this may dispose me, perhaps, for the reception of truth, but helps me not to it; that must come from proofs and arguments, and light arising from the nature of things themselves, not from my shamefacedness, ignorance, or error. See the articles **REASON** and **REASONING**.

The arguments of logicians are the syllogism, enthymem, induction, &c. See the article **SYLLOGISM**, &c.

ARGUMENT, in astronomy, denotes a known arch, by means of which we seek another one unknown.

The argument of the moon's latitude is her distance from the node; and the argument of inclination is an arch of a planet's orbit, intercepted between the ascending node, and the place of the planet from the sun, numbered according to the succession of the signs.

ARGUMENT of the moon's menstrual longitude, or menstrual ARGUMENT of the longitude, is an arch of the excentric circle of the moon, intercepted between her true place, once equated, and a right line drawn through the center of the excentric parallel to the menstrual line of the apses. See **APSES** and **MOON**.

ARGUMENT, in matters of literature, denotes also the abridgment or heads of a book, history, comedy, chapter, &c. See the article **SYLLABUS**.

ARGUMENTATION, the act of him who argues, and the manner of framing arguments. See the article **ARGUMENT**.

ARGUN, a river of Tartary in Asia, serving as a boundary between the chinese and russian empires.

ARGUN is also a city of asiatic Tartary.

tary, situated on the above river, in 104° east longitude, and $51^{\circ} 30'$ north latitude.

ARGUS-SHELL, a species of porcelain-shell, beautifully variegated with spots, resembling, in some measure, those in a peacock's tail. See **PORCELAIN SHELL**.

ARGYLESHIRE, a county of Scotland, lying westward of Glasgow, and comprehending the countries of Lorn, Cowal, Knapdale, Kintyre, together with the islands Mull, Jura, Isla, &c. It gives the title of duke to the noble family of Campbell.

ARGYROPOEIA, among alchemists, a pretended art of transmuting, or changing other metals into silver.

ARIHUSEN, a city of Jutland, in Denmark, situated at the entrance of the Baltic-sea, in $10^{\circ} 20'$ east longitude, and 56° north latitude.

ARIANO, a town of the kingdom of Naples, and province of Principata, situated about fifteen miles east of Benevento, in $15^{\circ} 35'$ east longitude, and $41^{\circ} 16'$ north latitude.

ARIANS, in church history, a sect of ancient heretics, who denied the three persons in the holy trinity to be of the same essence, and affirmed Christ to be a creature; that he was inferior to the father as to his deity; that he was neither co-eternal, nor co-equal with him; also, that the holy ghost was not God, but a creature of the son. In their doxologies, they ascribed glory to the father in the son, through the holy ghost.

ARICA, a sea-port town of Peru, in south America, situated on the pacific ocean, in $70^{\circ} 20'$ west longitude, and $18^{\circ} 20'$ south latitude.

ARIES, **RAM**, in zoology. See **RAM**.

ARIES, in astronomy, a constellation of fixed stars, drawn on the globe in the figure of a ram. It is the first of the twelve signs of the zodiac, from which a twelfth part of the ecliptic takes its denomination. It is marked thus ♈, and consists of sixty-five stars.

ARIES, the battering ram, in antiquity. See the article **RAM**.

ARISARUM, in botany, the name by which two distinct genera of plants, the calla and arum of Linnæus, are called. See the article **CALLA**, &c.

The arisarum of Tournefort has a hooded kind of flower, from whence its english name Friars coul.

The flower and leaves, applied in the way of ointment, are detesive and vulnerary; and the roots, taken in powder,

are reckoned good in malignant cases.

ARISTA, among botanists, a long needle-like beard, which stands out from the husk of a grain of corn, grass, &c.

ARISTIDA, in botany, a genus of the triandria digynia class of plants, the calyx of which is a bivalve subulated glume, of the length of the corolla; the corolla is a glume of one valve opening longitudinally, hairy at the base, and terminated by three sub-equal patulous aristæ; the fruit is a connivent glume, containing a naked filiform single seed, of the length of the corolla.

ARISTOCRACY, a form of government where the supreme power is vested in the principal persons of the state, either on account of their nobility, or their capacity and probity. The republic of Venice is an aristocracy.

ARISTOLOCHIA, **BIRTH WORT**, in botany, &c. See **BIRTH-WORT**.

ARISTOTELIAN, something relating to Aristotle: thus we read of the aristotelian philosophy, school, &c. See the article **PERIPATETICS**.

ARISTOTELIAN WHEEL, *rota aristotelica*. See the article **ROTA**.

ARITHMETIC, the art or science of numbering; being that branch of pure mathematics, which treats of the powers and properties of numbers.

Proclus, in his commentary upon the first book of Euclid, says, that the Phœnicians, by reason of their traffic and commerce, were thought to be the first inventors of arithmetic, which Pythagoras and his followers, as also the Egyptians, Greeks, and Arabians afterwards much improved, as Clavius and others tell us. But if we are to judge of the knowledge of these antients in arithmetic, from their writings upon the subject, which have been transmitted to us, we may safely conclude, that their advances herein were but very short and scanty. For, setting aside Euclid, who indeed has given several very plain and pretty properties of numbers in his *Elements*, and Archimedes in his *Arenar*, they mostly consist in dry disagreeable distinctions and divisions of numbers; as may be seen in Nicomachus's, and Boetius's arithmetic.

Nor is the Greek manner of numeration, by the letters of the alphabet, at all fit for the performance of the practical part of multiplication, division, &c. with the ease and expedition that they are now-a-days performed by the Indian figures or nine digits.

Dr. Wallis, in his history of algebra, says, that there are at Oxford two arithmetical manuscripts of **Johannes de Sacro Bosco**, who died about the year 1250, wherein the operations of addition, subtraction, multiplication, division, and extraction of the square and cube roots, are performed much the same as now.

Boetius's arithmetic was wrote in the sixth century. And in the ninth century **Pfelliuss** wrote a compendium of the ancient arithmetic in Greek, which was translated into latin by **Xylander**, and published anno 1556, at Basil.

The fundamental rules, or operations, of arithmetic, are four, *viz.* addition, subtraction, multiplication, and division; the practice of each of which is given under the heads **ADDITION**, **SUBTRACTION**, &c.

But besides these, there are other rules contrived for facilitating computations of all kinds: such is the rule of proportion, rule of three, or golden-rule, as it is called; also, the rules of fellowship, interest, reduction, extraction of roots, barter, &c. all which will be delivered under the several heads **PROPORTION**, **INTEREST**, &c.

The number of books on arithmetic is very great. **Wingate**, **Cocker**, **Leybourn**, **Hill**, **Pardon**, &c. have written practical treatises of it; but by far the most complete system, in our, or perhaps in any other language, is that of **Mr. Malcolm**.

Binary ARITHMETIC. See **BINARY**.

Common ARITHMETIC, besides that of integers, already described, comprehends vulgar fractions. See **FRACTION**.

DECADAL, that performed by nine figures and a cypher, taken, no doubt, from the number of our fingers. See the article **NUMERATION**.

Decimal ARITHMETIC, that containing the doctrine of decimal fractions. See the article **DECIMAL**.

Dyadic ARITHMETIC, the same with the binary. See the article **BINARY**.

Harmonical ARITHMETIC. See the article **HARMONICAL**.

ARITHMETIC of Infinites, the doctrine of infinite series. See the article **SERIES**.

Instrumental ARITHMETIC, that performed by means of instruments, as the abacus, or counting-board, **napier's bones**, &c. See **ABACUS**, **NAPIER'S BONES**, &c.

Literar ARITHMETIC, the same with *specious*. See the article **ALGEBRA**.

Logarithmetical ARITHMETIC, that performed by means of logarithms, See the article **LOGARITHM**.

Logistical ARITHMETIC, the same with *sexagesimal*.

Numerous ARITHMETIC, the same with *decadal*.

Political ARITHMETIC. See **POLITICAL**. **ARITHMETIC** of rationals and irrationals. See the article **RATIONAL**.

Sexagesimal ARITHMETIC, the doctrine of sexagesimal fractions. See the article **SEXAGESIMAL**.

Specious ARITHMETIC, the same with algebra. See the article **ALGEBRA**.

Tetradical ARITHMETIC, that wherein only 1, 2, 3, and 0 are used.

ARITHMETICAL, in a general sense, something belonging to arithmetic. See the preceding article.

ARITHMETICAL complement of a logarithm, the sum or number which a logarithm wants of 10,000000: thus the arithmetical complement of the logarithm 8.154032 is 1.845968.

ARITHMETICAL mean, or *medium*. See the article **MEDIUM**.

ARITHMETICAL music, is that part of the science of music, which considers the relations of sounds and numbers. See the article **MUSIC**.

ARITHMETICAL progression. See the article **PROGRESSION**.

ARITHMETICAL proportion. See the article **PROPORTION**.

ARITHMETICAL ratio. See **RATIO**.

ARITHMOMANCY, *αριθμομαντεια*, a species of divination performed by means of numbers.

The gematrie, which makes the first species of the jewish cabbala, is a sort of arithmomancy. See **CABBALA**.

ARK, **ARC**, or **ARCH**. See **ARCH**.

ARK, *arca*, in the scripture language, a kind of vessel, built by the express command of God, for preserving Noah and his family, together with the several species of animals, from the universal deluge. It was not like our modern ships, but of an oblong square form, not unlike a chest, only that the roof, or upper part, was built shelving, to carry off the rain. The ark has afforded several points of curious enquiry among the critics and naturalists, relating to the form, capacity, and materials; time of building, place of resting after the flood, &c. Those who desire a particular discussion of these points may consult **Calmet's dictionary** of the bible, **Buteo de arca Noe**, **Wilkins's real character**, &c.

ARK of the covenant, so the Jews called a small chest, wherein were contained the golden

golden pot that had manna, Aaron's rod, and the tables of the covenant.

This coffer was of shittim wood, covered with plates or leaves of gold, being two cubits and a half in length, a cubit and an half wide, and a cubit and an half high. Upon the top of it there was all round a kind of gold crown, and two cherubims were fastened to the cover. On the two sides of this coffer there were four rings of gold, two on each side, thro' which staves were put, by the help whereof they carried it as they marched thro' the wilderness.

ARKLOW, a sea-port town of Ireland, situated in the county of Wicklow, about thirteen miles south of the city of Wicklow, in $6^{\circ} 20'$ west longitude, and $52^{\circ} 55'$ north latitude.

ARLES, a city of Provence in France, situated on the eastern shore of the river Rhone, in $4^{\circ} 45'$ east longitude, and $43^{\circ} 32'$ north latitude.

ARLON, a town of the dutchy of Luxemburg, in the austrian Netherlands, situated in $5^{\circ} 30'$ east longitude, and $49^{\circ} 45'$ north latitude.

ARM, *brachium*, a part of the human body, terminating at one end in the shoulder, and at the other in the hand.

Anatomists divide the arm into two parts, calling only that part the arm which is included between the shoulder and the elbow, the rest, from the elbow to the wrist, being taken into the greater hand, is called the fore arm. The arm, in this acceptation, has only one large bone, called the *os humeri*, or the shoulder bone. The other part consists of two bones, viz. the radius, and cubitus, or ulna.

The *os humeri* has five sorts of motions, which are effected by five pair of muscles; upwards, by the *deltoides*, *supraspinatus*, and *coraco brachialis*; downwards, by the *teres*, *rotundus major*, and *latissimus dorsi*; forwards, by the *pectoralis*; backwards, by the *infraspinatus*.

The muscles of the other part are the *biceps*, *brachæus internus*, *gemellus*, *brachæus externus*, *anconæus*, *pronator*, *radii teres*, & *quadratus*, *supinator longus*, & *brevis*. Its motions are confined to two kinds, that of rotation, and that of flexion and extension.

For fractures and luxations of the arm, see **HUMERUS** and **CUBITUS**.

ARM, in riding, is applied to a horse, when by pressing down his head, he endeavours to defend himself against the bit, to prevent obeying, or being checked thereby.

A horse is said to arm himself with the

lips, when he covers his bars with his lips, and deadens the pressure of the bit.

ARM, in geography, denotes a branch of the sea, or of a river.

ARM is also used figuratively for power.

ARM, in respect of the magnet. A loadstone is said to be armed, when it is inclosed, capped, or set in iron or steel, in order to increase its magnetic virtue. See the article **MAGNET**.

ARMADA, a spanish term, signifying a fleet of men of war, as *armadilla* does a squadron.

The armada which attempted to invade England, in the time of Queen Elizabeth, is famous in history.

ARMADILLO, in zoology, an animal of the quadruped class, comprehended by some among the hedge-hogs, but made a distinct genus by Linnæus, under the name *dasypus*; the distinguishing characteristic of which is, that the animals are covered with a kind of bony, or horny coat of mail, of various figures and dimensions. One of these with feet somewhat resembling the human hand, is represented in plate XX. fig. 6.

ARMAGH, once a considerable city of Ireland, but now much reduced, situated about thirty miles south of Londonderry, in $6^{\circ} 45'$ west longitude, and $54^{\circ} 30'$ north latitude.

It is still the see of the primate of Ireland, and gives name to the county of Armagh.

ARMAGNAC, a district or territory, in the north-east part of Gascony in France.

ARMAN, in farriery. See the article **DRENCH**.

ARMED, in a general sense, denotes something provided with, or carrying arms.

ARMED, in the sea language. A cross-bar shot is said to be armed, when some rope-yarn, or the like, is rolled about the end of the iron bar, which runneth through the shot.

A ship is said to be armed, when fitted out, and provided, in all respects, for war.

ARMED, in heraldry, is used when the horns, feet, beak, or talons of any beast or bird of prey, are of a different colour from the rest of their body. He bears a cock or a falcon armed, or, &c.

ARMED MAGNET, or **LOADSTONE**. See the article **MAGNET**.

ARMENIA, a large country of Asia, comprehending Turcomania, and part of Persia.

ARMENIAN, something belonging to, or produced in, Armenia: thus, we say, *armenian bole*, *armenian stone*, &c. See the articles **BOLES**, **LAPIS**, &c.

AR-

Fig. 1. AQUILEGIA, OR COLUMBINE.

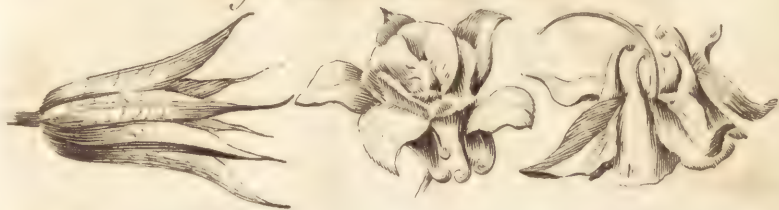


Fig. 2. AQUIFOLIUM.



Fig. 3. ARACARI.



Fig. 4. ARBUTUS.

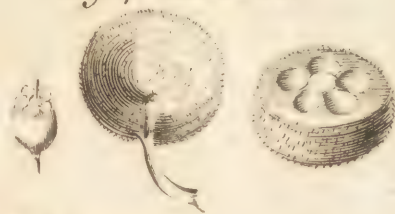


Fig. 5. ARCH.

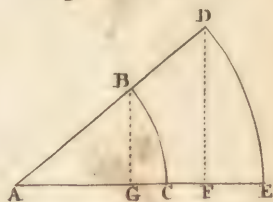


Fig. 7. ARGENT.



Fig. 6. ARMADILLO.





ARMENIANS, in church-history, a sect or division amongst the eastern christians; thus called from Armenia, the country antiently inhabited by them; there are two kinds of armenians, the one catholic, and subject to the pope, having a patriarch in Persia, and another in Poland; the other makes a peculiar sect, having two patriarchs in Natolia. They are generally accused of being monophysites, only allowing of one nature in Jesus Christ. As to the eucharist, they, for the most part, agree with the greeks: they abstain rigorously from eating of blood, and meats strangled; and are much addicted to fasting.

ARMENTIERS, a fortified town in french Flanders, situated about seven miles west of Lille, in $2^{\circ} 50'$ east longitude, and $50^{\circ} 42'$ north latitude.

ARMIERS, a town of Hainault, in the french Netherlands, situated on the river Sambre, about twenty miles south of Mons, in $3^{\circ} 40'$ east longitude, and $50^{\circ} 15'$ north latitude.

ARMIGER, an esquire, or armour-bearer.

ARMILLA-MEMBROSA, in anatomy, is that circular ligament which comprehends all the tendons belonging to the whole hand within a circle, in the region of the carpus.

ARMILLARY, *armillaris*, in a general sense, something consisting of rings, or circles, from *armilla*, a bracelet.

ARMILLARY SPHERE, an artificial sphere, composed of a number of circles, representing the several circles of the mundane sphere, put together in their natural order, to ease and assist the imagination, in conceiving the constitution of the heavens, and the motions of the celestial bodies.

The armillary sphere turns upon its axis P p (plate XXII. fig. 1.) within a silvered horizon H O, which is divided into degrees, and moveable every way, upon a brass supporter. E Q represents the equinoctial, and A B the zodiac, which is a broad circle divided into degrees, and into twelve equal parts, marked with the twelve signs γ , δ , Π , &c. A P B p is the meridian, likewise divided into degrees.

The other parts are the two tropics, and two polar circles, both delineated in the figure.

ARMILUSTRIUM, in roman antiquity, a feast held among the Romans, in which they sacrificed armed, to the sound of trumpets.

ARMINGS, in the sea-language. article ARMED.

ARMINIANS, in church-history, a sect of christians, which arose in Holland, by a separation from the calvinists. They are great assertors of free-will. They speak very ambiguously of the prescience of God. They look on the doctrine of the trinity as a point not necessary to salvation; and many of them hold there is no precept in scripture, by which we are enjoined to adore the holy ghost; and that Jesus is not equal to God the father.

ARMIRO, a town of european Turkey, in the province of Thessaly, situated in $23^{\circ} 30'$ east longitude.

ARMISTICE, a temporary truce, or cessation of arms for a very short space of time.

ARMOISIN, a silk stuff, or kind of taffety, manufactured in the East Indies, at Lyons in France, and Lucca in Italy. That of the Indies is slighter than those made in Europe.

ARMONIAC, or AMMONIAC, in natural history, a sort of volatile salt, of which there are two kinds, natural and artificial.

The natural sal ammoniac, used by the antients, was found in the sands of Lybia, near the temple of Jupiter Ammon. It was supposed to be generated in those sands from the urine of camels. The artificial, or common sal ammoniac, is chiefly brought from Egypt; and though there is hardly a more common drug, it is but very lately we have known in what manner it is made; being procured by sublimation from all sorts of urine of men and beasts, mixed with common salt and soot. It must be chosen white, clear, transparent, dry, and without filth; and when broken, it must appear as if full of needles.

The use of this salt is very considerable in medicine, and several artificers use it; such as dyers, silversmiths, pinmakers, farriers, &c. Its spirit is so sharp, that, when mixed with aqua-fortis, or spirit of nitre, it completes the dissolution of gold, which those two powerful dissolvents could not effect without it.

Its preparations are, 1. Flowers of sal armoniac. 2. Its volatile salt. 3. Its spirit. 4. Its dulcified spirit.

ARMOR, or ARMOUR. See ARMOUR.

ARMORIAL, somewhat relating to arms, or coats of arms. See the article ARMS.

ARMORY, a warehouse of arms, or a place

wherein the military habiliments are kept, to be ready for use.

ARMORY is also a branch of the science of heraldry, consisting in the knowledge of coats of arms, as to their blazons and various intendments. See the articles **BLAZONING** and **HERALDRY**.

ARMOUR denotes all such habiliments as serve to defend the body from wounds, especially of darts, a sword, a lance, &c. A complete suit of armour formerly consisted of a helmet, a shield, a cuirasse, a coat of mail, a gantlet, &c. all now laid aside.

ARMOURER, a person who makes or deals in arms and armour.

ARMS, *arma*, in general, all kinds of weapons, whether used for offence or defence.

Arms of offence are the sword, pistol, musquet, bayonet, &c. See **SWORD**, &c.

Arms of defence. See **ARMOUR**.

ARMS, in a legal sense, extend to any thing that a person wears for his own defence, or takes into his hand, and uses, in anger, to strike or throw at another.

ARMS of courtesy or parade, were lances not shod, swords without edge or point, &c. used in the ancient tournaments. See the article **TOURNAMENT**.

Pass of **ARMS**, a kind of combat, when antiently one or more cavaliers undertook to defend a pass against all attacks.

ARMS denote also the natural weapons of beasts, as claws, teeth, beak, &c.

ARMS, or **ARMORIES**, in heraldry, marks of honour borne upon shields, banners, and coats, in order to distinguish states, families, and persons.

At this time, arms follow the nature of titles, which being made hereditary, they are also become so, being the several marks to distinguish families, as names serve to distinguish individuals. They are the gift of kings and princes, through the ministry of their kings and heralds of arms, who ought to be knowing and judicious, to give the proper arms to all persons.

Arms are said to be parted, coupé, quartered, &c.

Charged ARMS, are such as retain their antient integrity and value, with the addition of some new honourable bearing.

Canting or *vocal ARMS*, those in which there are some figures, alluding to the name of the family.

Full or *intire ARMS*, such as retain their primitive purity, without any alterations or abatements.

False ARMS, such as are not conformable to the rules of heraldry.

ARMS, in falconry, the legs of a hawk from the thigh to the foot.

Place of **ARMS**, in fortification. See the article **PLACE**.

Assumptive ARMS. See **ASSUMPTIVE**.

ARMS of *patronage*. See **PATRONAGE**.

King at **ARMS**. See **KING** at *arms*.

Herald at **ARMS**. See the article **HERALD**.

Poursuivant at **ARMS**. See **POURSUIVANT**.

College of **ARMS**. See **COLLEGE** of *heralds*.

ARMUYDEN, a sea port town of the island of Zetland, situated at the mouth of the canal of Middleburg, in 3° 35' east lon. and 51° 30' north latitude.

ARMY, a large body of soldiers, consisting of horse and foot, completely armed, and provided with artillery, ammunition, provisions, &c. under the command of one general, having lieutenant-generals, major-generals, brigadiers, and other officers under him. An army is composed of squadrons and battalions, and is usually divided into three corps, and formed into three lines; the first line is called the van-guard, the second the main body, and the third the rear-guard, or body of reserve. The middle of each line is possessed by the foot, the cavalry form the right and left wing of each line; and sometimes they place squadrons of horse in the intervals between the battalions. When the army is drawn up in order of battle, the horse are placed at five feet distance from each other, and the foot at three. In each line the battalions are distant from each other one hundred and eighty feet, which is nearly equal to the extent of their front; and the same holds of the squadrons, which are about three hundred feet distant, the extent of their own front. These intervals are left for the squadrons and battalions of the second line to range themselves against the intervals of the first, that both may more readily march through those spaces to the enemy: the first line is usually three hundred feet distant from the second, and the second from the third, that there may be sufficient room to rally, when the squadrons and battalions are broken.

This is to be understood of a land army only. A naval, or sea army, is a number of ships of war, equipped and manned with sailors and mariners, under the command of an admiral, with other inferior officers under him. See the articles **NAVY**, **FLEET**, &c.

For diseases incident to armies, see the articles **CAMP**, **HOSPITAL**, &c.

ARNAY-LE-DUC, a town of Burgundy in France, situated on the river **Arroux**, in 4° east longitude, and 47° north lat.

ARNHEIM, a large city of Guelderland, in the united Netherlands, situated on the river **Lech**, about ten miles north of **Niméguen**, in 5° 50' east longitude, and 52° north latitude.

ARNICA, in botany, a genus of the syngenesia polygamia superflua class of plants, the common calyx of which is an imbricated perianthium, shorter than the radius of the corolla, with lanceolated, erect petals, of the length of the cup: the compound flower is radiated, the hermaphrodite corollulæ in the disk are very numerous, and the female ones in the radius are about twenty in number: the proper hermaphrodite flower is monopetalous, tubulous, erect, and trifid: there is no pericarpium, the seed is single, oblong, and crowned with a capillary long down.

ARNO, a river of Italy, which, after watering Tuscany, falls into the Mediterranean, below Pisa.

ARNOLDISTS, in church-history; sectaries so called from their leader **Arnold** of Bresse, who was a great declaimer against the wealth and vices of the clergy; and who is also charged with preaching against baptism, and the eucharist.

AROMATIC, an appellation given to such plants and other bodies as yield a brisk fragrant smell, and a warm spicy taste, as cloves, cardamom-seeds, cinnamon, nutmegs, &c. Their peculiar qualities reside in a volatile oil, usually called essential oil, and a grosser resinous substance, capable of being extracted by spirit of wine. The virtues of all aromatic vegetables are extracted by vinous spirits; very imperfectly by watery liquors. In distillation they arise with water more perfectly than with spirit. Aromatics, considered as medicines, warm the stomach, and by degrees the whole habit, raise the pulse, and quicken the circulation: hence in cold languid cases, they increase strength, and promote the natural secretions.

It is remarkable, that aromatics or spices preserve animal substances from putrefaction; and that providence has taken care to furnish warm climates with plenty of aromatics, which the inhabitants make frequent use of, and probably thereby check

that spontaneous tendency to putrefaction, to which the heat inclines them.

Besides all kind of spices, not a few of the nervous simples may be ranked among aromatics.

AROMATIC wine, that in which aromatics have been infused.

ARONA, a fortified town of the Milanese, situated on the south-west part of the lake **Maggior**, in 8° 50' east longitude, and 45° 40' north latitude.

ARONCHES, a town of the province of **Alentejo**, in Portugal, situated in 7° 30' west longitude, and 39° north latitude.

AROURA, a grecian measure of fifty feet. It was more frequently used for a square measure of half the plethron. The egyptian *aroura* was the square of one hundred cubits.

ARRACHE'E, in heraldry, a term applied to the representations of plants torn up by the roots.

ARRACK. See the article **RACK**.

ARRAIGNMENT, in law, the arraignment or setting a thing in order, as a person is said to arraign a writ of novel disseisin, who prepares and fits it for trial. It is most properly used; to call a person to answer in form of law upon an indictment, &c. at the suit of the king.

The arraignment is to take care that the prisoner appears to be tried, and hold up his hand at the bar for the certainty of the person, and plead a sufficient plea to the indictment. The prisoner is to hold up his hand only in treason and felony; but this is only a ceremony: if he owns that he is the person, it is sufficient without it; and then, upon his arraignment, his fetters are to be taken off.

ARRAN, an island of Scotland, situated in the frith of **Clyde**; between **Cantire** and **Cunningham**.

ARRAS; a large fortified town of the french Netherlands, capital of the province of **Artois**, situated in 2° 50' east longitude, and 50° 20' north latitude. It is from this city that the rapacity, called *arras bangings*, takes its denomination.

ARRAS, or **ARAXES**, is also the name of a river of Georgia, which discharges itself into the **Caspian** sea.

ARRAY, in law, the ranking or setting forth of a jury, or inquest of men impanelled on a cause.

Battle-ARRAY, the order or disposition of an army, drawn up with a view to engage the enemy. See the article **ARMY**.

ARREARS, the remainder of a sum due, or money remaining in the hands of, an accountant. It signifies also, more generally, the money that is due for rent, unpaid for land or houses; likewise what remains unpaid of pensions, taxes, or any other money payable annually, or at any fixed term.

Rien **ARREAR**, in law, a plea whereby a person, sued for arrears, alledges there are none due.

ARRENTATION, in the forest-law, is the licensing an owner of lands in a forest, to inclose them with a low hedge, and a small ditch, in consideration of a yearly rent.

ARREST, the apprehending and restraining a person, in order to oblige him to be obedient to the law; which in all cases, except treason, felony, or breach of the peace, must be done by virtue of a precept out of some court. Doors may be broke open to arrest a felon; but in civil cases it is otherwise, unless it be in pursuit of one before taken.

Attornies, &c. maliciously causing any person to be arrested, shall forfeit ten pounds, and treble damages. The same penalty is incurred for arresting a person, (except in criminal cases, and an escape-warrant) on Sundays; but arrests made in the night, are equally lawful with those by day.

Peers of the realm, and members of parliament, may not be arrested for debt; nor can any other subject be arrested for less than ten pounds, on a process issued out of a superior court, or forty shillings in an inferior one.

ARREST of judgment, the assigning just reasons why judgment should not pass, as want of notice of the trial, a material defect in the pleading, when the record differs from the deed pleaded, when persons are mis-named, where more is given by the verdict than is laid in the declaration, &c. This may be done either in criminal or civil cases.

ARRESTANDIS BONIS, &c. a writ that lies for one whose cattle or goods are taken by another, who is likely to carry them away before the contest is decided.

ARRESTO FACTO SUPER BONIS, &c. a writ brought by a denizen against the goods of aliens found within this kingdom, as a recompence for goods taken from him in a foreign country.

ARRESTS, in farriery, mangy tumours upon a horse's hinder legs, between the ham and the pastern. See **RAT-TAIL**.

ARRHABONARII, a sect of christians, who held that the eucharist is neither the real flesh or blood of Christ, nor yet the sign of them: but only the pledge or earnest thereof.

ARRHEPHORIA, *ἀρρηφορία*, a feast among the Athenians, instituted in honour of Minerva, and Herse daughter of Cecrops.

ARRIERE, the hinder or posterior part of any thing. See the article **REAR**.

ARRIERE-EAN, in the French customs, is a general proclamation, whereby the king summons to the war all that hold of him; both his vassals, *i. e.* the noblesse, and the vassals of his vassals.

ARRIERE-FEE, or **FIEF**, is a fee dependent on some other superior one.

ARRIERE-VASSAL, or **TENANT**, the vassal or tenant of another vassal or tenant.

ARROBA, a weight used in Spain, in Portugal, at Goa, and throughout all Spanish America. In all these places, the arrobas are scarce any otherwise like each other but in name, being very different in weight, and in their proportion to the weights of other countries.

ARROE, an island of Denmark, situated in the Baltic sea, in $10^{\circ} 15'$ east longitude, and $55^{\circ} 15'$ north latitude.

ARROGATION, or **ADROGATION**. See the article **ADROGATION**.

ARRONDE'E, in heraldry, a cross, the arms of which are composed of sections of a circle, not opposite to each other, so as to make the arms bulge out thicker in one part than another; but the sections of each arm lying the same way, so that the arm is every where of an equal thickness, and all of them terminating at the edge of the escutcheon like the plain cross.

ARROW, a missive weapon, sharp-pointed and barbed, designed to be shot or thrown out of a bow. See **BOW**.

ARROW, in surveying, small sticks, shod with iron, to stick into the ground at the end of the chain.

ARROW, sagitta, in astronomy. See the article **SAGITTA**.

ARSENIC, a poisonous mineral-preparation, which is either white, red, or yellow, all prepared from the flowers of cobalt. See the article **COBALT**.

The white arsenic, which is prepared by subliming these flowers, without any addition, is the basis of the other two; the yellow arsenic being made by subliming ten pounds of the white kind to which one pound of sulphur has been added; and

and red arsenic is sublimed from ten pounds of white arsenic, or flowers of cobalt, one pound of sulphur, and six ounces of scorizæ of copper.

Properties and uses of ARSENIC. The smallest quantity of any of these arsenics, mixed with any metal, renders it friable, and absolutely destroys its malleability; so that the refiners dread nothing so much as arsenic in their metals. It preys most readily on iron, then on copper; both which it turns white. Silver, and even gold, are not able to withstand the corrosive power of arsenic; but tin suffers most of all from it, being thereby calcined in an instant to grey loose ashes. It is used in many manufactures. Potters, glass-men, painters in enamel, &c. find it of use in their several professions.

Arsenic, taken internally, is the most fatal of all poisons, and therefore people cannot be too cautious in this respect. Hence also appears the extreme danger in selling yellow arsenic instead of orpiment, which is but too frequently done.

ARSENICAL, in a general sense, something belonging to, or partaking of the nature of arsenic.

ARSENICAL MAGNET, a preparation of white arsenic with antimony and sulphur, said to be a gentle caustic.

ARSENOTHELYS, *αρσενοθηλυσ*, the same with hermaphrodite.

ARSIS and **THESIS**, in music. A point is said to move *per arsin* and *thesin*, which rises in one part and falls in another, and *vice versa*.

ARSON, in law, the same with house-burning, which is felony at common law, and likewise by statute.

ART, *ars*, a system of rules, serving to facilitate the performance of certain actions; in which sense it stands opposed to science, or a system of merely speculative principles.

Arts are commonly divided into liberal and mechanical; the former comprehending poetry, painting, sculpture, architecture, &c. and the latter, the whole body of mechanical trades, as carpentry, masonry, turnery, &c. See the articles **POETRY**, **PAINTING**, &c.

The great Bacon observes, that the arts which relate to the eye and ear, are accounted most liberal: the others being held in less repute, as approaching nearer to sensuality than magnificence: also, that during the rise of states, the military arts have been found to flourish; when at their heights, the liberal arts; and,

when on the decline, the arts of luxury. **ART** is also an appellation given to several superstitious practices, as St. Anselm's art, St. Paul's art, &c.

Terms of ART. See the article **TERM**.

Batchelor of ARTS. See **BACHELOR**.

Master of ARTS. See the article **MASTER**.

ART and **PART**, in the law of Scotland, is applied to an accomplice. See the article **ACCOMPLICE**.

The facts inferring art and part need not be particularly laid in the libel or indictment, for these general words, as terms of stated signification, are sufficient. Yet these facts may be set forth, and it is proper so to do, if the prosecutor chuses to confide in the court rather than in the jury.

Also in the criminal letters, the persons of the accomplices must be described by proper names and designations.

One may be art and part, 1° By giving counsel to perpetrate, without distinction, whether the crime would have been committed without such counsel or not. This being what can never be perfectly known. But it is to be observed, that in the more atrocious crimes, he that gives counsel is equally punished as him that commits them; but in the less atrocious less severely. And sometimes reasons of mitigation are taken from the age, the manner of advising, &c. 2° By aid and assistance, and that either previous, or concomitant, or subsequent, to the commission of the crime. The first rarely comes up to art and part, unless very particularly qualified; the second commonly does, and it is easily known, if it does not; the third never, and hardly deserves the name, unless it be in providing for the criminal's escape. But any of the three make art and part, if the perpetration was premeditated. 3° By a clear and explicit mandate to commit the crime, or to do somewhat unlawful in itself, which with great probability might produce it, if executed by the hand of the mandatory, and not that of another.

ARTA, or **LARTA**, a sea port town of Epirus, in european Turkey, situated in 22° east longitude, and 39° north lat.

ARTEDIA, a genus of the pentandria digynia class of plants, the general umbel of which is multiple, plane and patent; the partial umbel is small, but similar; the general involucre is composed of about ten leaves; they are of an oblong oval figure, nearly of the length of the umbel, and have three spines or setæ at

their extremities: the partial involucre is composed of two or three leaves, and turns outward: the general corolla is difform, and radiated; the single flowers of the disk are all males: they consist each of five erect inflexo-cordate petals: the single flowers of the radius are all hermaphrodites; they consist of the same number of petals, but in these the exterior one is larger than the rest, and is divided into two parts: the fruit is roundish, compressed, and divisible into two parts: the seeds are two, oblong and elegantly ridged at the edges, with round squammæ.

ARTEMISIA, in botany, a genus of plants with flosculous flowers, comprehending not only the mugworts, but wormwood and southernwood; which all belong to the *Syngenesia polygamia superflua* class of Linnæus. See the articles **MUGWORT**, **WORMWOOD**, &c.

Artemisia, however, most commonly denotes mugwort. See plate XXII. fig. 2.

ARTERIA, artery. See **ARTERY**.

ARTERIAL, or **ARTERIOSE**, in anatomy, any thing relating to the arteries.

ARTERIOSE VEIN, a name given to the pulmonary artery.

ARTERIOSE CANAL, a tube in the heart of a fœtus, that, with the foramen ovale, is of use to preserve the circulation of the blood, &c.

ARTERIOTOMY, the opening an artery, with design to procure an evacuation of blood.

This operation is used only in extraordinary cases, as it is very dangerous, and must be practised in the temples, the forehead, or behind the ears, where the arteries are easily closed again.

This operation is now seldom performed on any but the temporal arteries, which may be opened very easily by the lancet as they lie close under the skin, and lying close upon the os frontis, they may be readily compressed against it, and there is no danger of a profuse hæmorrhage, or aneurism; but even in this most convenient part, it must be acknowledged that the opening an artery is much more difficult than the opening a vein, as the vessel seldom appears plainly through the skin, and there is no guide but its vibration under the finger.

In the operation of arteriotomy, the patient must be placed in a good light, and the surgeon must place two fingers of his left hand, at a small distance from each other both on the artery. He must then

observe the course of the vessel, and cut down into it deeper than in phlebotomy, and raise the point of the lancet, so as to make a sufficient orifice: in this he need not fear the cutting of the vessel quite through, for even that is attended with no ill consequences after deligation. If now the blood follows the lancet in a very florid and salient stream, you may be satisfied the artery is well opened; if this is not the case it must be cut again; but as in this operation, the fine point of a lancet is liable to be broke against the bone, the use of a small scalpel is preferable. A pound or a pound and half of blood should be taken by this operation: when the sufficient quantity of blood is taken, the deligation must be made with three compresses, each larger than the other, laying on the smallest first, in which must be included a farthing, a bit of lead, or of chewed paper to compress the artery against the bone, and the head must continue tied up with a proper bandage eight days.

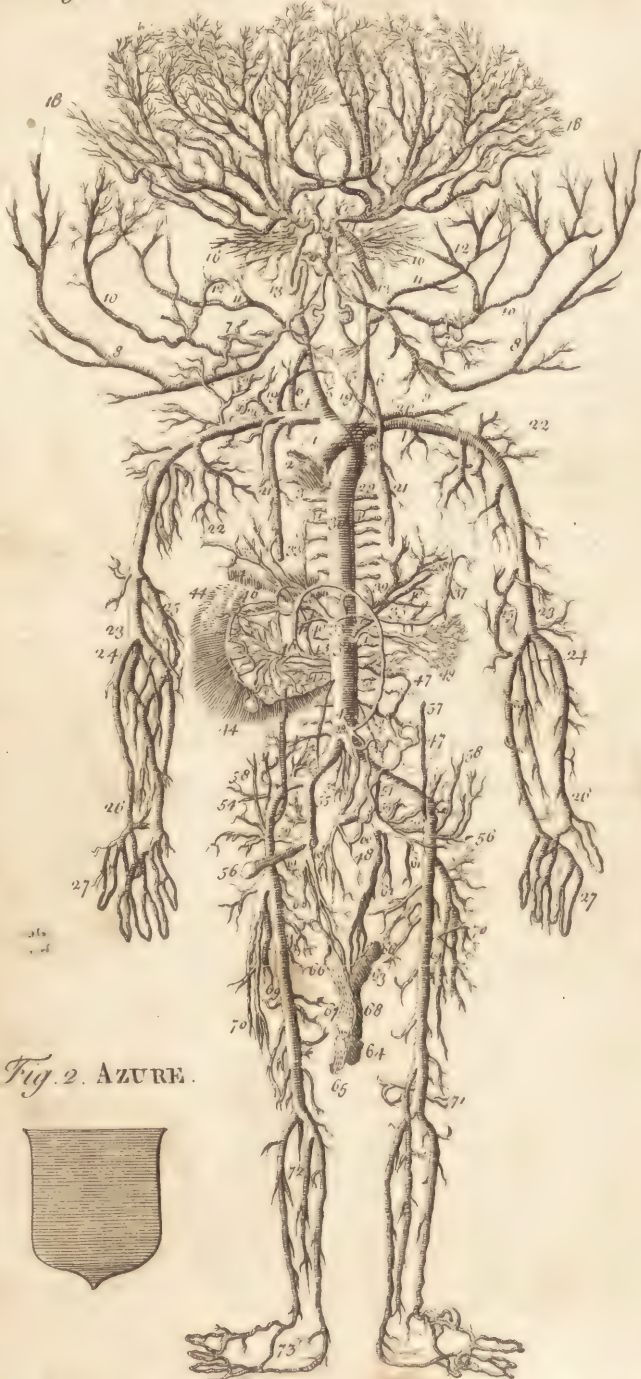
ARTERY, in anatomy, a conical tube or canal, which conveys the blood from the heart to all parts of the body.

An artery is composed of three membranes, or coats; the outermost of which appears to be a web of fine blood-vessels and nerves, for nourishing the interior membranes. The next is composed of circular or spiral fibres, of which there are more or fewer, according to the bigness of the artery. These fibres being very elastic, contract themselves with some force, when the power ceases, by which they have been stretched out. The third and innermost membrane is of a dense contexture, yet transparent and fine. It serves to keep the blood within its channels, which otherwise would, upon the dilatation of the artery, separate, with much ease, the spiral fibres from one another. The pulse of the arteries consists of two reciprocal motions, like the pulse of the heart, being a systole and a diastole, keeping opposite times, the systole of the one answering to the diastole of the other.

The arteries of the human body are, strictly speaking, only two, *viz.* the pulmonary artery, and the aorta. See the articles **PULMONARY** and **AORTA**.

All the other arteries of the body, tho' distinguished by particular names, are only branches of these two. The ascending aorta, arising from the left ventricle of the heart, presently gives two arteries, called



Fig. 1. ARTERIES of the HUMAN BODY.*Fig. 2. AZURE.*

called coronary ones, to the heart itself. A little above this, it is divided into three ascending branches: from which are formed the two carotids, and the two subclavians; and from these last proceed the musculares colli, the external scapular artery, the superior intercostals, the mediastinal artery, the superior diaphragmatic artery, the mammary artery, and the axillary arteries: all which are subdivided into less branches, as will be shewn under the articles CAROTID, SCAPULAR, AXILLARY, &c.

From the descending trunk of the aorta proceed, in the following order, the bronchial artery, the inferior intercostals, the arteries of the œsophagus, the inferior diaphragmatics, the cœliac, superior mesenteric, the renal or emulgent arteries, the spermatics, the inferior mesenteric, the lumbar arteries, the sacra, and two iliaes. These are the main branches sent out from the descending aorta, each of which is again subdivided into many lesser branches. See the articles BRONCHIAL, COELIAC, &c.

To enter into a more minute detail of these lesser subdivisions, would be tedious; and, therefore, we think it more expedient to refer to plate XXI. fig. 1. where the arteries are not only delineated, but their several names explained by proper references, in the following manner.

EXPLANATION of plate XXI. fig. 1.

1. Aorta, cut from its origin at the left ventricle of the heart.
2. 2. Trunks of the coronal arteries.
3. The three semilunar valves.
4. 4. Subclavian arteries.
5. 5. Carotid arteries.
6. 6. Vertebral arteries.
7. 7. Arteries of the tongue, &c.
8. 8. Temporal arteries.
9. 9. Point out the neighbouring muscles of the temporal arteries, the hairy scalp, and forehead.
10. 10. Trunks which send blood to the foramina narium.
11. 11. Occipital arteries.
12. 12. Arteries which carry blood to the fauces, gargareon, and muscles of those parts.
13. 13. Contortions of the carotids.
14. 14. Those parts of the carotids, where they pass by each side of the sella turcica, where divers small branches arise from them, to compose the rete mirabile.
15. 15. Ophthalmic arteries.
16. 16. Arteries of the cerebellum.
17. 17. The communicant branches be-

tween the carotid and cervical artery, 18. 18. Ramifications of the arteries within the skull.

19. 19. Arteries of the larynx.

20. 20. Other arteries of the larynx, which convey the blood to the muscles of the neck and scapula.

21. 21. Mammary arteries.

22. 22. The arteries of the muscles of the os humeri, and some of those of the scapula.

23. 24. 25. 26. Arteries of the arm.

27. Arteries of the hand and fingers.

28. 28. Descending trunk of the aorta.

29. Bronchial artery.

30. A small artery springing from the fore-part of the aorta descendens, passing to the gulla.

31. 31. Intercostal arteries.

32. Trunk of the cœliac artery.

33. 33. 33. Hepatic arteries.

34. Arteria Cystica.

35. 36. 37. 38. 39. Arteries of the stomach, pylorus, and epiplois.

40. 40. Phrenic arteries.

41. Trunk of the splenic artery.

42. Two small arteries going to the upper part of the duodenum and pancreas.

43. 44. 45. 46. 47. Mesenteric arteries.

48. Those of the rectum.

49. 49. Emulgent arteries.

50. The vertebral arteries of the loins.

51. 51. Spermatic arteries.

52. Arteria sacra.

53. 53. Iliac arteries.

54. 54. 58. Iliaci externi.

55. 55. 59. Iliaci interni.

56. 56. Umbilical arteries.

57. 57. Epigastric arteries.

60. 62. Arteries of the penis and pudendum.

61. 61. Arteries of the bladder.

63. The penis distended with wind, and dried.

64. The glans penis.

65. The upper-part of the dorsum penis, cut from the body of the penis, and raised to the corpora cavernosa penis.

66. 66. Corpora cavernosa penis freed from the ossa pubis, and tied after inflation.

67. The two arteries of the penis, as they appear injected with wax in each cavernous body of the penis.

68. The capsula and septum of the corpora cavernosa penis.

69. 69. 70. 70. Crural arteries.

71. That part of the crural artery that passes the ham.

72. Arteries of the leg.

73. Arteries of the foot.

Wounds of the ARTERIES. When any considerable artery is wounded or divided, there generally ensues so violent an hæmorrhage, that the wounded party is in an instant sensible of a great weakness and a loss of spirits, and faints away; and when any of the larger arteries are divided, whether they are external or internal, he dies upon the spot. Although somewhat less danger is apprehended from wounds that are inflicted upon the arteries, which are situated upon the external parts of the body, some few excepted, because they will admit of the ligature, and other means for restraining the violence of the hæmorrhage; nevertheless, in the opinion of Heister, it is impossible to prevent the limbs, which lie below the division of the artery, and are used to receive their nourishment by that channel, from becoming paralytic; nay, sometimes from mortifying: this is almost constantly the case, when the trunk of the brachial or crural artery is divided. See WOUND and HÆMORRHAGE.

These being the consequences which follow the total division of a considerable artery, it now remains to consider what will follow a partial division of them. Whenever a large artery is wounded, and not entirely divided, the wounded fibres instantly contract themselves; by this means they dilate the orifice of the wound, and render it difficult to stop the flux of the blood; and though the hæmorrhage be stopped for a little time, yet it will burst out again on a sudden violently, or, at least, produce an aneurism: this will frequently be the case, when only the external coat of the artery is wounded; for by this means, the internal coat is left to sustain the whole impetus of the pulse, which it being unequal to, is forced by degrees into a tumour like a bag, which frequently brings on great mischiefs. See the articles TUMOUR and ANEURISM.

The various methods for stopping the profusion of blood, attending injuries of the arteries, have been already treated of under the article hæmorrhage; but it may be here observed, that in dangerous wounds of the large arteries, such as the crural and axillary, and in amputations of the limbs, the safest method is that of making a ligature round the vessels: if this is performed by passing a strong waxed thread under the artery, by the

help of a crooked needle, the blood is presently stopped, and the orifices of the artery coalesce.

Rough ARTERY, aspera arteria, the cartilaginous tube, descending from the mouth to the lungs, and otherwise called the trachea, or wind pipe. See TRACHEA.

ARTHRITIS, the GOUT, in medicine. See the article GOUT.

ARTHRITICA, in botany, a name used for the primrose.

ARTHRODIA, in natural history, a genus of imperfect crystals, found always in complex masses, and forming long, single pyramids, with very short and slender columns. See the article CRYSTAL.

ARTHRODIA, in anatomy, a species of articulation, wherein a flat head of one bone is received into a shallow socket of another.

ARTHRONIA, in zoology, a name given by Dr. Hill to that class of animalcules, which have visible limbs; such as the scelasmus, brachionus or wheel-animals, &c. See the article SCELASIUS, &c.

ARTICHOAK, CYNARA, in botany. See the article CYNARA.

ARTICLE, a clause or condition of a contract, treaty, &c.

ARTICLE is also a small part or division of a discourse, a book, or writing, &c.

ARTICLE of faith is a point of religious doctrine, allowed and received by any church, or religious sect, as having been revealed from heaven.

ARTICLE, in anatomy, the juncture of two bones designed for motion.

ARTICLE of death, the last pang or agony of one just expiring.

ARTICLE, in arithmetic, sometimes called decad, denotes a number justly divisible into ten parts, as the numbers 10, 20, 30, &c.

ARTICLE, in grammar, a particle in most languages, that serves to express the several cases and genders of nouns, when the languages have not different terminations to denote the different states and circumstances of nouns.

The latin has no article; but the greeks have their *ο*: the eastern languages have their *be emphaticum*; and most of the modern languages have had recourse to articles. The only articles made use of in the english tongue, are *a* and *the*; which, prefixed to substantives, determine their general signification to some particular thing. The use of *a* is in a general sense, and may be applied to any particular person or thing, and upon that account

account is called an *indefinite article*: but *the*, being a determinate article, is called definite, or demonstrative, as applying the word to one individual. The French have three articles, *le*, *la*, and *les*; the Italians have their *il*, *lo*, and *la*; and the Germans their *der*, *das*, and *dat*.

ARTICULARIS MORBUS, the same with the gout. See the article **GOUT**.

ARTICULATE SOUNDS are such sounds as express the letters, syllables, or words of any alphabet or language: such are formed by the human voice, and by some few birds, as parrots, &c. Other brutes cannot articulate the sounds of their voice.

ARTICULATED, something furnished with, or consisting of joints.

ARTICULATION, in anatomy, denotes the juncture of two bones, intended for motion.

Articulation is of two kinds; the first is called diarthrosis, being that which has a manifest motion. That which only admits of an obscure motion, is called synarthrosis.

The former is subdivided into enarthrosis, arthrodia, and ginglymus. See the article **ENARTHROSIS**, &c.

The latter is subdivided into symphysis, syntenosis, futura, harmonia, fissarcosis, synchondrosis, and synneurosis. See the articles **SYMPHYSIS**, &c.

ARTIFICER, a person whose employment it is to manufacture any kind of commodity, as in iron, brass, wool, &c. such are smiths, weavers, carpenters, &c. If any such conspire not to work under certain prices, they are liable to divers penalties. Persons that contract with artificers in wool or metals to go out of the kingdom, shall be fined in any sum not exceeding 100 l. and imprisoned for three months. If artificers, that are abroad, do not return in six months after warning, they shall be deemed aliens, and be incapable of inheriting lands by descent.

ARTIFICIAL, in a general sense, denotes something made, fashioned, or produced by art, in contradistinction to the productions of nature.

This term is as extensive as the works of art: thus we say, artificial day, globe, fountain, lightening, magnet, rainbow, &c. See the articles **DAY**, **GLOBE**, &c.

ARTILLERY, large fire-arms of all sorts, with their appurtenances, as cannons, mortars, bombs, petards, musquets, carabines, &c. See the articles **CANNON**, **MORTAR**, &c.

Some ascribe the invention of artillery to Albertus; yet there is reason to believe that they are mistaken. John Matthew de Luna, who lived 150 years ago, maintains, though against the constant opinion of Polydorus, Magius, Mayer, Pancirollus, Flurentius, Rivolt, and Bezoldus, that Albertus Magnus found out the use of great guns, fusils, and pistols; but we cannot find, in all these authors, any thing which comes near this opinion, except that the experiment was made of these engines in his time by a German monk named Berthold Schuartz, or by a chemist who lived in the city of Cologne, where Albertus resided, after he took the habit of a Dominican.

ARTILLERY-PARK, the place in the rear of both lines, in the army, for encamping the artillery, which is drawn up in lines, of which one is formed by the guns: the ammunition waggons make two or three lines, sixty paces behind the guns, and thirty distant from one another: the pontoons and tumbrils make the last line. The whole is surrounded with a rope, which forms the park; the gunners and matrosses encamp on the flanks, and the bombardeers, pontoon-men, and artificers, in the rear.

ARTILLERY-TRAIN, a certain number of pieces of ordnance, mounted on carriages, with all their furniture fit for marching, as mortar-pieces, cannons, bombs, carcasses, &c. There are trains of artillery in most of the king's magazines, as at the Tower, Portsmouth, Plymouth, &c.

The writers upon artillery are Casimir, Semionowitz, Brechtelius, Buchnerus, Braunius, Mieth, and S. Remy, in his memoirs d'Artillerie, which contains an accurate description of all the machines and instruments of war.

The term artillery is also applied to the ancient instruments of war, as the catapult, battering-ram, &c.

ARTILLERY-COMPANY, a band of infantry, consisting of six hundred men, making part of the militia or city guard of London.

ARTIST, a person skilled in some art. See the article **ART**.

ARTOIS, a province of the french Netherlands, situated between Flanders and Picardy.

ARTOTYRITES, in church-history, a sect of christians who used bread and cheese in the eucharist, or bread, perhaps, baked with cheese; urging, in defence of

of this practice, that in the first ages of the world, men offered to God the fruits of their flocks, as well as those of the earth.

ARVALES FRATRES, in roman antiquity, a college of twelve priests, instituted by Romulus, who himself made one of the body: they assisted in the sacrifices of the ambervall, offered annually to Ceres and Bacchus; for the prosperity of the principal fruits of the earth, viz. those of corn and wine.

ARUBA, a small island on the coast of Terra Firma, subject to the Dutch; and situated in $69^{\circ} 30'$ west longitude, and $12^{\circ} 30'$ north latitude.

ARUM, WAKE-ROBIN, or CUCKOW-PINT, in botany, a genus of plants, the flower of which consists of one petal, resembling in some measure a hare's ear; and its fruit is a roundish, unilocular berry, containing several seeds of the same shape.

This genus belongs to the *gynandria polyandria* class of Linnaeus, who makes it comprehend the *arum*, *arisarum*, *colocasia*, and *dracunculus* of other botanists.

The root of arum is esteemed good in scorbutic cases, in the asthma, and obstructions of the bronchia, &c.

ARUNDEL, a town of Sussex, situated on a river of the same name, in $30'$ west longitude, and $50^{\circ} 45'$ north latitude.

It gives the title of earl to the noble family of the Howards, and sends two members to parliament.

ARUNDO, COMMON REED, in botany, a genus of the triandria digynia class of plants; the calyx of which is a glume formed of two oblong, acuminate valves, not aristated, one longer than the other. The corolla is formed of two valves of the length of the cup, of an oblong, acuminate figure, with a lanuginous matter at the base, of the length of the flower: the corolla adheres to the seed, and serves as a pericarpium: the seed is single, oblong, pointed, and downy at the base.

ARUSPICES, or HARUSPICES, an order of priesthood, among the Romans, that pretended to foretel future events by inspecting the entrails of victims killed in sacrifice; they were also consulted on occasion of portents and prodigies. It appears that women were admitted into this order.

ARYTÆNOIDES, in anatomy, the name of two cartilages, which, together with others, constitute the head of the larynx.

It is also applied to some muscles of the larynx.

ARYTÆNOIDEUS, in anatomy, one of the muscles that closes the larynx, having its head in one arytenoid cartilage, and its tail in the other; serving at once to bring them together; and to shut the rima, or glottis.

ARYTHMUS, ἀρhythμος, in medicine, the want of a just modulation in the pulse. It is opposed to eurythmus, a pulse modulated agreeably to nature.

ARZEL, among sportsmen, is said of a horse that has a white mark upon the far foot behind.

ARZILLA, a sea-port town of the empire of Morocco; situated about fifteen miles south of Tangier, in $5^{\circ} 40'$ west longitude, and $35^{\circ} 40'$ north latitude.

AS, in antiquity, a particular weight, consisting of twelve ounces; being the same with *libra*, or the roman pound.

AS was also the name of a roman coin, which was of different matter and weight, according to the different ages of the commonwealth.

It is also used to signify an integer, divisible into twelve parts, from which last acceptance it signified a whole inheritance. The *as* had several divisions, the principal of which were the *uncia*, or ounce, being the twelfth part of the *as*; *sextans*, the sixth part of the *as*; *quadrans*, the fourth part; *triens*, the third part; and *semis*, half the *as*, or six ounces. *Bes* was two thirds of the *as*, or eight ounces; and *dodrans*, three-fourths of the *as*.

ASA, in the materia medica, a name given to two very different vegetable productions, distinguished by epithets expressive of their smell.

Asa foetida is a very stinking gum, drawn, according to Kemfer, from the root of an umbelliferous plant, which grows in the province of Chorasán, in Persia. It has large, thick roots, with few fibres, black without, but very white within, and full of a white foetid juice; and is recommended in medicine to promote the menses, in hysteric affections, and in all nervous complaints.

ASA DULCIS. See the article *BENSOIN*.

ASAPH, or St. **ASAPH**, a city of Flintshire, in north Wales, situated about twenty miles north-west of Chester, in $3^{\circ} 30'$ west long. and $53^{\circ} 18'$ north lat.


ASAPPES, or **AZAPES**, in the turkish armies, a name given to the auxiliary troops which they raise among the christians

tians under their dominion, and expose to the first shock of the enemy.

ASARUM, or **ASARABACCA**, in botany, a genus of plants, without any flower-leaves, and belonging to the *dodecandria monogynia* class of Linnæus. Its fruit is a coriaceous capsule, divided into six cells, and containing a great many oval seeds. See plate XXII. fig. 3.

Asarum is a powerful emmenagogue, and recommended by some in the gout, dropsy, and many other chronic complaints.

ASBESTINE, whatever partakes of the nature of the asbestus, as asbestine paper, asbestine cloth. See the next article.

ASBESTUS, , in natural history, a fibrous, flexible, incombustible, and elastic body, composed of single and continuous filaments.

There are many species of asbestus, with which the antients were well acquainted; and the art of spinning and making it into cloth, was certainly well known among them. Signor Ciampi, of Rome, was successful enough to make cloth of some of the kinds, by steeping the stone in water, opening and dividing it with his hands, and then gently carding it as wool, and spinning it from off the cards with much care into a coarse thread; which being worked into a cloth, by the help of other thread to hold it together, and thrown into the fire, left the composition intirely of asbestus. Some writing paper made of asbestus is preserved in the British Museum at London. For the other properties of the asbestus, see the article **AMIANTHUS**.

ASCARIDES, in medicine, a slender kind of worms, not unfrequently voided by stool. See the article **WORMS**.

ASCENDANT, **ASCENDENT**, or **ASCENDING LINE**, among lawyers, is meant of ancestors, or such relations as are nearer the root of the family. Such are the father, grandfather, great uncle, &c. Marriage is always forbidden between the ascendants and descendants in a right line.

ASCENDANT, in astrology, that degree of the equator which rises above the horizon in the east, when any person is born, called also the angle of the first house in a scheme of horoscope.

ASCENDENS OBLIQUUS, in anatomy, the same with the obliquus internus abdominis. See the article **OBLIQUUS**.

ASCENDING, in astronomy, is said of such stars as are rising above the horizon, in any parallel of the equator.

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ASCENDING latitude of a planet. See the article **LATITUDE**.

ASCENDING NODE. See the article **NODE**.

ASCENDING SIGNS, among astrologers, those rising from the nadir towards the zenith.

ASCENDING VESSELS, in anatomy, those which carry the blood upwards, as the aorta ascendens, and vena cava ascendens. See the articles **AORTA** and **VENA**.

ASCENSION, *ascensio*, denotes, in general, a rising, or moving upwards.

ASCENSION, in astronomy, the rising of the sun or a star, or any part of the equinoctial with it, above the horizon, is either right or oblique.

Right ascension is that degree of the equator, reckoned from the beginning of aries, which rises with the sun or a star, in a right sphere. It is found by the following proportion. As the radius to the cosine of the sun or star's greatest declination, so is the tangent of the distance from aries to libra, to the tangent of right ascension.

Oblique ascension is that degree and minute of the equinoctial, counting from the beginning of aries, which rises with the center of the sun or a star, or which comes to the horizon at the same time as the sun or star, in an oblique sphere. In order to find the oblique ascension, we must first find the ascensional difference. See the article **ASCENSIONAL**, &c.

The arch of right ascension coincides with the right ascension itself, and is the same in all parts of the globe. The arch of oblique ascension coincides with the oblique ascension, and changes according to the latitude of places.

Refraction of ASCENSION. See the article **REFRACTION**.

ASCENSION DAY, a festival of the christian church, held ten days before Whitsuntide, in memory of our Saviour's ascending into heaven after his resurrection.

ASCENSION-ISLAND, an uninhabited island, lying almost in the midway between Africa and Brazil, in 17° west longitude, and 7° south latitude.

ASCENSIONAL, in a general sense, something belonging to ascent, or ascension. See the article **ASCENSION**.

ASCENSIONAL DIFFERENCE, the difference between the right and oblique ascension of any point in the heavens; or it is the space of time, that the sun rises or sets before or after six o'clock.

The ascensional difference may be found by this proportion, *viz.* As the radius is

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to the latitude of the place, so is the tangent of the sun's declination to the sine of the ascensional difference; by subtracting of which from the right ascension, when the sun is in the northern signs, and adding it, when the sun is in the southern ones, you will find the oblique ascension.

ASCENT, *ascensus*, in a general sense, the motion of a body upwards.

The ascent of light bodies is now well known to be owing to the preponderancy of heavier ones, whereby they are impelled upwards.

ASCENT of bodies on inclined planes. See the article PLANE.

ASCENT of fluids, is particularly understood of their rising above their own level between the surfaces of nearly contiguous bodies, or in slender capillary glass tubes, or in vessels filled with sand, ashes, or the like porous substance. See the articles FLUID and ATTRACTION.

ASCENT of Vapours. See the articles CLOUD and EXHALATION.

ASCENT, in astronomy. See ASCENSION.

ASCETICS, in church-history, such christians in the primitive church as inured themselves to great degrees of abstinence and fasting, in order to subdue their passions. In short, every kind of uncommon piety laid claim to the name ascetic.

The ascetics of St. Basil is the title of a book upon spiritual exercise.

ASCHAFFENBURG, a city of Germany, situated on the river Mayne, in the circle of the lower Rhine, about twenty miles east of Frankfurt, in 9° east longitude, and $50^{\circ} 15'$ north latitude.

ASCH, among geographers, an appellation given to those inhabitants of the earth, who, at certain seasons of the year, have no shadow: such are all the inhabitants of the torrid zone, when the sun is vertical to them.

ASCITES, in medicine, the common dropsy. See the article DROPSY.

ASCLEPIAD, *asclepiadeus*, in ancient poetry, a verse composed of four feet, the first of which is a spondee, the second a choriambus, and the two last dactyls; or of four feet and a cæsure, the first a spondee, the second a dactyl, after which comes the cæsure, then the two dactyls, as
Mæcenas atavis edite regibus.

ASCLEPIAS, SWALLOW-WORT, in botany, a genus of the pentandria digynia class of plants, the calyx of which is a permanent perianthium, divided into five acute and small segments; the corolla

consists of a single petal, divided into five deep segments at the mouth; and its fruit consists of two follicles or vaginæ, containing a great number of imbricated seeds, winged with down. See plate XXII. fig. 4.

The root of this plant is esteemed sudorific, emmenagogue, and is frequently prescribed as an alexipharmic, especially among the Germans: it appears to possess much the same medicinal virtues with valerian, only that this last is indisputably preferable to it. See VALERIAN.

ASCODRUTÆ, in church-history, a sort of gnostics, who placed all religion in knowledge, and under pretence of spiritual worship, would admit of no external or corporeal symbols whatever.

ASCOLI a city in the marquisate of Ancona, in Italy, situated on the river Tronto, in 15° east longitude, and $42^{\circ} 50'$ north latitude.

ASCOLI is also a city of the kingdom of Naples, situated in the province of Capitanata, in $16^{\circ} 30'$ east longitude, and $41^{\circ} 15'$ north latitude.

ASCOLIA, in grecian antiquity, a festival celebrated by the athenian husbandmen, in honour of Bacchus, to whom they sacrificed a he-goat, because that animal destroys the vines. Out of the victim's skin it was customary to make a bottle, which, being filled with oil and wine, fell as a reward to him who first fixed himself upon it with one foot.

ASCYRUM, in botany, a genus of plants with a roseaceous flower, and an oblong capsular fruit, formed of two valves, and containing a number of small, roundish seeds. It belongs to the *polyadelphia polyandria* class of Linnæus, and is so nearly allied to the *hypericum*, that Tournefort makes them the same genus; from which however, it is distinguished, by having only four petals, whereas the *hypericum* has five.

ASH, FRAXINUS, in botany. See the article FRAXINUS.

ASHBURTON, a town of Devonshire, situated about twenty-two miles south-west of Exeter, in $4^{\circ} 15'$ west longitude, and $50^{\circ} 30'$ north latitude.

ASHBY DE LA ZOUCH, a market-town of Leicestershire, situated about fifteen miles north-west of Leicester, in $1^{\circ} 25'$ west longitude, and $52^{\circ} 40'$ north latitude.

ASHES, the earthy part of wood and other combustibles, remaining after they are consumed by fire. These, if produced from a vegetable, are of a white colour,

and

and saltish taste, a few instances excepted, and when boiled with fair water, yield a lixivium of an acrimonious alkaline fiery urinous taste. The ashes of all vegetables are vitrifiable, and are found to contain iron.

Ashes of all kinds contain a very rich fertile salt, and are an excellent manure for cold and wet ground. They are also of considerable use in making *lixiviums* or lyes, for the purposes of medicine, bleaching, and for sugar works, and are distinguished by various names, as pot-ashes, pearl-ashes, wood-ashes, and weed ashes. See POT-ASH, &c.

The antients preserved the ashes of their dead ancestors in urns. See URN.

ASHFORD, a market town of Kent, situated about twelve miles south-west of Canterbury, in 45' east longitude, and 51' 15' north latitude.

ASIA, one of the four grand divisions of the earth, situated between 25° and 148° east longitude, and between the equator and 72° north latitude, and bounded by the frozen ocean on the north, by the pacific ocean on the east, by the indian ocean on the south, by the red-sea on the south-west, and by the mediterranean and euxine seas, &c. on the west and north-west; being 4800 miles long from east to west, and 4300 broad from north to south.

Asia is subdivided into the eastern, middle, and western divisions; the first comprehending the empire of China, chinese Tartary, and the asiatic islands lying south, and eastward of China; the second or middle, comprehending India, Ussac-tartary, Calmuc-tartary, and Siberia; and the third, or western division, comprehending Persia, Arabia, Astracan, Circassian-tartary, and Turkey in Asia. In painting, Asia is represented by a woman, wearing a garland of various flowers and fruits; dressed in a rich, embroidered vestment; holding in her right-hand, branches and roots of cassia, pepper, cloves, &c. and in her left, a smoking censer; with a camel kneeling by her.

Lesser Asia, the same with Natolia. See the article NATOLIA.

ASIATIC, something peculiar to Asia: thus we say, asiatic stile, asiatic fruits, &c. See the article STILE, &c.

ASIDE, in the drama, something said by an actor, which some, or even all the other actors present, are supposed not to hear;

a practice justly condemned, as being unnatural and improbable.

ASILUS, in the history of insects, the hornet-fly, or wasp-fly.

ASINUS, the Ass, in zoology, See the article ASS.

ASOPH, a city of Coban Tartary, situated on the south shore of the river Don, near its mouth, in 44° east longitude, and 47° 15' north latitude.

ASP, *aspis*, in zoology, a species of anguis. See the article ANGUIS.

ASPALATHUS, ASPALATH, in botany, a genus of the diadelphia-decandria class of plants, the calyx of which consists of a single-leaved perianthium, divided into five segments: the corolla is papilionaceous; the fruit is a roundish, turgid, unilocular, bivalve pod; the seed is single, and frequently kidney-shaped.

In the materia medica this plant is also called rosewood, and rhodianwood, and accounted by the antients an astringent, but now is almost quite rejected, as an internal medicine. An oil drawn from it is of an admirable scent, and very comfortable to the head, where perfumes are not offensive. It is chiefly used in scenting pomatums and liniments. See RHODIUM LIGNUM.

ASPARAGUS, in botany, a genus of the hexandria monogynia class of plants, having no calyx: the corolla is of an oblong campanulated figure; it is composed of six petals, cohering at their tips: they are oblong formed into a tube, and the three inner ones are alternately placed, and reflex at the extremity, they are all permanent: the fruit is a roundish berry, containing two smooth seeds of the same shape.

The root of this plant is deservedly reckoned one of the five openers, and is an ingredient in all compositions, intended to cleanse the viscera, especially where their obstructions threaten the jaundice and dropsy. It is likewise used in many disorders of the breast, as operating by urine, it is of service in most such cases.

ASPECT, in astronomy, denotes the situation of the planets and stars, with respect to each other; whereof we find mention of five kinds: 1. Sextile aspect is when the planets or stars are 60° distant, and marked thus *. 2. The quartile, or quadrate, when they are 90° distant, marked □. 3. Trine, when 120° distant, marked △. 4. Opposition, when 180° distant, marked g. And, 5. Con-

junction, when both in the same degree, marked δ .

Kepler, who added eight new ones, defines aspect to be the angle formed by the rays of two stars meeting on the earth, whereby their good or bad influence is measured; for it ought to be observed, that these aspects being first introduced by astrologers, were distinguished into benign, malignant, and indifferent; the quartile and opposition being accounted malign, the trine and sextile, benign or friendly, and the conjunction indifferent.

Double ASPECT, in painting, is used where a single figure is so contrived, as to represent two or more different objects, either by changing the position of the eye, or by means of angular glasses. See the articles **MIRROUR** and **ANAMORPHOSIS**.

ASPEN-TREE, in botany, the poplar with trembling leaves. See **POPLAR**.

ASPER, in grammar, an accent peculiar to the greek language, marked thus (´) and importing that the letters over which it is placed, ought to be strongly aspirated, or pronounced as if an *h* were joined with them.

ASPER, or **ASPRE**, in commerce, a turkish coin, three of which make a medine, and worth something more than our half-penny.

ASPERA ARTERIA, in anatomy, the same with the wind pipe, or trachea. See **TRACHEA** and **ARTERY**.

ASPERIFOLIATE, or **ASPERIFOLIOUS**, among botanists, such plants as are rough leaved, having their leaves placed alternately on their stalks, and a monopetalous flower divided into five parts. Of this class are bugloss, borage, &c. See the articles **BUGLOSS**, &c.

ASPERITY, the inequality of the surface of any body, which hinders the hand from passing over it freely.

According to the testimony of blind persons, we have reason to believe that every colour hath its particular degree of asperity.

ASPERSION, the act of sprinkling.

ASPERUGO, in botany, a genus of the pentandria monogynia class of plants, the flower of which consists of one rotated petal, divided into several segments at the limb; and its calyx, which is divided like the flower-petal, contains the seeds, which are four in number, and of a roundish compressed figure. See plate XXII. fig. 5.

ASPERULA, **WOODRUFFE**, in botany, a genus of the tetrandria monogynia

class of plants, the flower of which consists of one petal, divided into four segments at the limb; and its fruit is composed of two roundish, dry berries, adhering together, in each of which is a single seed of the same roundish shape.

The leaves and roots of this plant are esteemed aperient and diuretic, and consequently prescribed in the jaundice, and obstructions of the viscera.

ASPHALITES, a term applied by some anatomists to the fifth vertebra of the loins. See the article **VERTEBRÆ**.

ASPHALTUM, in natural history, a solid dry opaque inflammable substance, found in Egypt, about the dead sea, and in many places of Europe, in detached masses of no regular structure, breaking easily in any direction, very light, fusible, and after burning some time with a greenish white flame, leaving a residuum of white ashes. Dr. Hill enumerates three species of it, the first being the bitumen judaicum, which is of a discutient quality, promotes the menstrual discharge, and enters as an ingredient into the venice treacle. See the article **BITUMEN**.

ASPHODEL, *asphodelus*, in botany, a genus of the hexandria monogynia class of plants, the flower of which is liliaceous, consisting of a single petal, divided into six segments; and its fruit is a globose-trilocular capsule, containing a number of triangular seeds, gibbous on one side. See plate XXIII. fig. 1.

The roots of asphodel are diuretic, and said to promote the menses: their ashes too, if rubbed on the affected part in an alopecia, cause new hair to grow.

ASPHURELATA, in natural history, are semi-metallic fossils, fusible by fire, and not malleable in their purest state, being in their native state intimately mixed with sulphur and other adventitious matter, and reduced to what are called ores.

Of this series of fossils, there are only five bodies, each of which makes a distinct genus, and these bodies are antimony, bismuth, cobalt, zinc, and hydrargyrum, or quicksilver. See the articles **ANTIMONY**, &c.

ASPIRATE, in grammar, denotes words marked with the spiritus asper. See the article **ASPER**.

ASPIRATION, *aspiratio*, among grammarians, is used to denote the pronouncing a syllable with some vehemence; as these words beginning with the letter *H*, *hear*, *beat*, which are pronounced more softly without the *H*, as *ear*, *eat*.

ASPIS,



ASPIS, the *ASP*, in zoology, a species of anguist. See the article *ANGUIS*.

ASPLENIUM, *MILT-WASTE*, or *SPLEEN-WORT*, in botany, a genus of cryptogamous plants, the fructification of which is arranged in clusters, and disposed in form of strait lines, under the disk of the leaf. See plate XXIII. fig. 2.

This genus comprehends the *asplenium*, *lingua cervina*, and *trichomanes* of different botanists.

ASS, *afinus*, in zoology, a quadruped of the horse-kind, with a long head, long ears, a round body covered with a short and coarse fur, of a pale dun colour, with a streak of black running down its back, and across the shoulders, and a tail not hairy all the way, as in a horse, but only at the end.

The ass is wild in many warm countries, and particularly in Africa. See the article *ZEBRA*.

ASSA, or *ASA DULCIS* and *FOETIDA*. See the article *ASA*.

ASSAI, in music, signifies *much*, and according to others, that the motion of the piece be kept in a middle degree of quickness or slowness. As *assai allegro*, *assai presto*. See *ALLEGRO* and *PRESTO*.

ASSAILLANT, one that assaults another. See the article *ASSAULT*.

ASSARON, or *OMER*, a measure of capacity, in use among the Hebrews, containing five pints. It was the measure of manna, which God appointed for every Israelite.

ASSART, *assartum*, in law, an offence committed in a forest, by pulling up the trees by the roots. This is a greater trespass than waste.

A person, however, may sue out a licence to assart ground in a forest; that is, to clear it, and make it arable: and from hence lands are called *assarted*, and formerly assart rents were paid to the crown for such lands.

ASSASSIN, a person who kills another by attacking him at some disadvantage. It is also meant of one who hires himself to murder a person to whom he is a stranger, in order to revenge the quarrel of another.

ASSATION, a term used in pharmacy, for a peculiar kind of decoction of plants in their own juice.

ASSAULT, in law, a violent injury offered to a man's person, being of a higher nature than battery; for it may be committed by offering a blow, or a terrifying speech. In case a person threatens to beat another, or lies in wait to do

it, if the other is hindered in his business, and receives loss, it will be an assault, for which action may be brought, and damages recovered. Not only striking, but thrusting, pushing, casting stones, or throwing drink in the face of any person, are deemed assaults.

In all which cases a man may plead in his justification, the defence of his person or goods, father, mother, wife, master, &c.

ASSAULT, in the military art, a furious effort made to carry a fortified post, camp, or fortress, wherein the assailants do not screen themselves by any works: while the assault continues, the batteries cease, for fear of killing their own men.

ASSAY, *ESSAY*, or *SAY*, in metallurgy, the trial of the goodness and purity of metals, and metalline substances. Hence,

ASSAYING, is the art of finding how much pure metal is contained in every ore, or the proportion of the several ingredients of any mixed metal: or it may be defined, the art of separating metals, semi-metals, sulphurs, and mineral salts from each other, and from other bodies mixed with them, so that it may appear, what quantity there was originally of each in the body under trial, or what benefit may be reaped from the extracting of it. See the article *ORE*.

All minerals are the objects of this art: for the bodies aforesaid being seldom found naturally pure, and under their true form, but most commonly mixed and confounded with each other, a thousand different ways, and with many kinds of earth and stones; it is proper that the workman should know the nature of all these things, to be able to determine, what is requisite for the separation of them.

In order to the assaying of gold-ores, it must be observed, that the method varies according to the nature and disposition of the mineral matters, along with which the metals happen to be mixed, whether it be stony, earthy, sulphureous, arsenical, &c. The art of making assays with dispatch upon gold and silver ores depends upon the scorification or vitrification of those heterogeneous fossile substances, which may be incorporated therewith: lead and the glass of lead, and antimony and its glass, being great scorificators or vitrifiers, they become the natural agents upon such occasions. See *SCORIFICATION*, *VITRIFICATION*, and *QUARTATION*.

The ultimate refinement of gold is thought to be that procured by fusing it thin along

- with

with thrice its own weight of antimony, wherein the antimony tears away, and imbibes the substance of all the other metals, but leaves the gold untouched, which therefore, as the heavier body, falls like a regulus to the bottom of the melting cone. See the article **ANTIMONY**.

In case there is a small or fine gold-sand to assay, or a very rich and delicate slud, both the proof by a small assay, and the extraction in the large way, are sometimes effected by amalgamation. Thus a certain parcel of it being weighed out, it is mixed with a determinate proportion of mercury, eight or ten times its quantity, and a quantity either of simple or salt water poured warm to them in a stone-mortar; let them be ground together, for some time, with a wooden pestle; then the sand is dilated by the addition of a little more water, that the mercurial particles may first subside, which being now connected into one mass, the sand, in a little basin, is easily washed off; then the mercury, being squeezed through leather, the particles of gold, that were collected and imbibed by it, remain behind, mixed with about one third part of the mercury in the form of a soft mass, or amalgam, which being exposed in a little glazed dish to a gentle fire, the mercury is thus evaporated, and leaves the gold in powder, which may now be weighed, to shew in what proportion the sandy or sluddy ore contains it. The like method of management will serve for the assaying of silver ores. See **AMALGAMATION** and **SILVER**.

Accurate assays upon the ores of the inferior metals, as lead, tin, copper, and iron, require proper furnaces, the due applications of fire, and suitable fluxes adapted to the respective ores; and indeed ores of the same kind frequently require different methods of assaying, as well as smelting. See the articles **FLUX**, **SMELTING**, **FURNACE**, **TIN**, &c.

In order to the due separation of metals from metals, or of a confused mixture of metals, such as those commonly called electrums, or such as the corinthian brass of old was supposed to be, we must observe, that experience has taught us a certain effect of lead, which could not be well conceived *a priori*: this is more effectually and sooner done by a proper glass of antimony, *viz.* that, by fusion upon the coppel, it resolves all the imperfect metals, without exception, into their smallest atoms, and partly throws

them up into its furnace, in the form of a half vitrified powdery substance, in part sinks along with them into the coppel, and in part converts them into glass, so as to leave nothing behind, but pure gold and silver.

Assaying of gold, by coppelling is thus performed: to the gold to be assayed, add a double quantity of fine silver; then having heated a coppel furnished with a muffle, in a reverberatory fire, let a ball of lead, of a weight proportionable to the quantity of gold to be assayed, be melted in it: in this, the mixture of gold and silver is to fuse till it appear of an equal colour, and has fixed itself in a little lump, at the bottom of the coppel. This lump, after cooling in the furnace itself, is to be taken out, and the process again repeated, till the lead be consumed; after which, let the remaining mass be weighed, and its weight compared with that of the original ingredients, will shew the purity or impurity of the gold.

Another still more accurate method of assaying gold, is by means of acid menstrua, thus: Let a mixed mass of gold and silver be melted, with three or four times that weight of pure silver. Let it, when cold, be beaten into a thin plate, and put into a glass of proof aqua fortis in warm sand: then the silver will soon be dissolved, and the gold will precipitate to the bottom, in a black powder: by decanting this solution of silver with proper care, this last operation may be repeated, by adding a little fresh aqua fortis to the gold, and setting it in a heat somewhat stronger than before, in order to dissolve any remains of silver in the gold powder; then find the proportion as in the first process. See **GOLD**.

The method of assaying silver is the same, only that lead is put into the crucible, proportioned to the quantity and quality of the silver to be assayed; and in this manner also are the assays of any mixture, of the nobler with the ignobler metals, made.

For the method of assaying gold or silver by means of the touch-needle. See the article **TOUCH-NEEDLE**.

ASSAYING of weights and measures, the examining the common weights and measures by the clerk of the market.

ASSAYING in music, a flourishing before one begins to play; or the running divisions, to lead one into the piece before us.

ASSAY-

ASSAY-MASTER, an officer appointed by certain corporations to make a just assay of all gold and silver brought to him, and to make a true report thereof.

ASSEMBLAGE, the uniting or joining of things together; or the things themselves so united, or joined. It is also used in a more general sense, for a collection of various things so disposed and diversified, as that the whole produces some agreeable effect.

ASSEMBLY, the meeting of several persons, in the same place, upon the same design.

ASSEMBLY, in the beau monde, an appointed meeting of fashionable persons of both sexes, for the sake of play, gallantry, conversation, &c.

ASSEMBLY, in the military art, the second beating of a drum before a march; at which the soldiers strike their tents, roll them, and stand to arms.

ASSEMBLIES of the clergy are called convocations, synods, councils; the annual meeting of the church of Scotland is called a general assembly.

ASSEMBLIES of the roman people were called comitia.

ASSENT, *assensus*, in a general sense, an agreement to something proposed, or affirmed.

Assent is either explicit, by open declaration; or implicit, and inferred from certain circumstances.

As to the degrees of assent due to any proposition, it ought no doubt to be proportioned to the evidence offered for it. See the articles **EVIDENCE**, **PROBABILITY**, &c.

Royal Assent, the approbation given by the king to a bill in parliament, after which it becomes a law. See **BILL**.

ASSERTION, *assertio*, in the language of the schools, a proposition advanced by the assertor, who avows the truth of it, and is ready to defend it.

ASSESSOR, an inferior officer of justice, appointed chiefly to assist the ordinary judge with his opinion and advice.

ASSESSOR is also one who assesses, or settles taxes, and other public dues.

ASSEVERATION, a positive and vehement affirmation of something.

ASSIDEANS, or **HASSIDEANS**, in jewish antiquity. See the article **HASSIDEANS**.

ASSIENTO, a spanish word, signifying a farm, in commerce, is used for a bargain between the king of Spain and other powers, for importing negroes into the spanish dominions in America, and par-

ticularly to Buenos Ayres. The first assiento was made by the french Guinea company; and by the treaty of Utrecht, transferred to the english, who were to furnish four thousand eight hundred negroes annually.

ASSIGN, in common law, a person to whom a thing is assigned or made over.

ASSIGNEE, in law, a person appointed by another to do an act, transact some business, or enjoy a particular commodity. Assignees may be by deed or by law: by deed, where the lessee of a farm assigns the same to another; by law, where the law makes an assignee, without any appointment of the person intitled, as an executor is assignee in law to the testator, and an administrator to an intestate. But when there is assignee by deed, the assignee in law is not allowed.

ASSIGNING, in a general sense, is the setting over a right to another; and in a special sense is used to set forth and point at, as to assign an error, to assign false judgment, to assign waste; in which cases it must be shewn wherein the error is committed, where and how the judgment is unjust, and where the waste is committed.

ASSIGNMENT, the transferring the interest one has in a lease, or other thing, to another person. Assignments may be made of lands in fee for life or years, of an annuity, rent-charge, judgment, statute, &c.

Novel Assignment. See the article **NOVEL ASSIGNMENT**.

ASSIMILATION, in physics, called also motion of multiplication, and motion of simple generation, is that motion by which bodies convert other bodies related to them, or at least such as are prepared to be converted, into their own substance and nature. Thus flame multiplies itself upon oily bodies, and generates new flame; air upon water, and produces new air; and all the parts, as well similar as organical, in vegetables and animals, first attract with some election or choice, nearly the same common, or not very different juices for aliment, and afterwards assimilate, or convert them into their own nature.

ASSISA, in law, the same with assise. See the article **ASSISE**.

ASSISA CADERE signifies to be nonsuited.

ASSISA NOCUMENTI, an assise of nuisance.

ASSISA CADIT IN JURATAM signifies the thing in controversy to be so doubtful, that it must be tried by a jury,

ASSISA

ASSISA continuanda, a writ issued to the justices of assise, for the continuance of a cause, where certain records alledged cannot be produced by the party.

ASSISA proroganda, a writ directed to the justices of assise, to stay proceedings, on account of the party's being employed in the king's business.

ASSISA panis & cervisie, the power of adjusting the weight and measure of bread and beer.

ASSISÆ judicium, the judgment of the court given against the plaintiff or defendant, for default.

ASSISE, in old law-books, is defined to be an assembly of knights and other substantial men, with the justice, in a certain place, and at a certain time: but the word, in its present acceptation, is used for the court place, or time, when and where the writs and processes, whether civil or criminal, are decided by judges and jury. In this signification, assise is either general, when judges make their respective circuits, with commission to take all assise; or special, where a commission is granted to particular persons for taking an assise upon one or two disseisins only. By Magna Charta, justices shall be sent through every county, once a year, who, with the knights of the several shires, shall take assise of novel disseisin: and as to the general assise, all the counties of England are divided into six circuits, and two judges are assigned by the king's commission to every circuit, who now hold the assises twice a year, in every county, except Middlesex, where the courts of record sit, and the counties palatine. These judges have five several commissions: 1. Of oyer and terminer, by which they are empowered to try treasons, felonies, &c. 2. Of gaol-delivery, which empowers them to try every prisoner in gaol, for whatever offence he be committed. 3. Of assise, which gives them power to do right upon writs brought by persons wrongfully thrust out of their lands and possessions. 4. Of nisi prius, by which civil causes come to issue in the courts above, are tried in the vacation by a jury of twelve men, in the county where the cause of action arises. 5. A commission of the peace in every county of the circuit: and all justices of peace of the county, and sheriffs, are to attend upon the judges, otherwise they shall be fined.

ASSISE is used in several other significations; as, 1. For a jury, where assises of

novel disseisin are tried, and the pannels of assise shall be arraigned. See the next article. 2. For a writ for recovery of the possessions of things immoveable, of which a person and his ancestors have been disseised. 3. For an ordinance or statute, as the assise of the forest, a statute concerning orders to be observed in the king's forest. 4. For a quantity of wheat, bread, &c. prescribed by a statute, as we say, when wheat is of such a price, bread shall be of such an assise.

ASSISE of novel disseisin is a writ that lies where a tenant in fee simple, fee tail, or for term of life, is put out and disseised of his lands, tenements, rents, common of pasture, common way, &c. A writ of assise may sometimes be had by a person, when he cannot have trespass *vi & armis*; as where a lord enters on lands, and distrains his tenant so often, when nothing is due, that the tenant is disturbed in manuring his lands; in such case he may have *assise de souvent fois distress*; but he cannot bring trespass against his lord.

ASSISE of mort d'ancestor is a writ which lies where a person's father, mother, brother, &c. died seised of lands and tenements in fee, and after either of their deaths, a stranger abateth. See the article **COSINAGE**.

ASSISE of darrein presentment. See the article **QUARE IMPEDIT**.

ASSISE of utrum lieth for a parson against a layman, or a layman against a parson, for lands or tenements doubtful whether they be lay-fee or free-alsms.

This, and the three preceding writs of assise, in respect to the grand assise, are called petit assises; for as the grand assise serves for the right of property, so the petit assise serves to settle the right of possession.

ASSISER, or ASSIZER, of weights and measures, an officer, who has the oversight of those things. See the article **CLERK of the market**.

ASSISIS, or Non ponendo in ASSISIS. See the article **NON PONENDO**.

ASSISTANT, a person substituted to attend a principal officer, for the more easy and regular discharge of his function.

ASSISTANT, in roman catholic countries, a name given to a sort of counsellors added to the superiors of monasteries, &c.

ASSISTANTS are also those appointed to assist at the execution of a criminal.

ASSIZE, or ASSISE. See **ASSISE**.

ASSOCIATE, a partner, adjunct, fellow, or companion. See the next article.

ASSO-

ASSOCIATION, the act of associating or constituting a company, society, or partnership, wherein two or more persons unite for their mutual interest, or the joint carrying on an affair, &c.

ASSOCIATION of ideas is where two or more ideas constantly and immediately follow one another, so that the one shall almost infallibly produce the other, whether there be any natural relation between them, or not.

When our ideas have a natural correspondence and connection one with another, it is the office and excellency of our reason to trace these, and hold them together, in that union and correspondence, which is founded in their peculiar beings. But when there is no affinity between them, nor any cause to be assigned for their accompanying each other, but what is owing to mere accident or custom; this unnatural association becomes a great imperfection, and is, generally speaking, a main cause of error, or wrong deductions in reasoning.

To this wrong association of ideas, made in our minds by custom, Mr. Locke attributes most of the sympathies and antipathies observable in men, which work as strongly, and produce as regular effects, as if they were natural, tho' they at first had no other original than the accidental connection of two ideas, which either by the strength of the first impression, or future indulgence, are so united, that they ever after keep company together in that man's mind, as if they were but one idea.

The ideas of goblins and spirits have really no more to do with darkness than light; yet, let but these be inculcated often in the mind of a child, and there raised together, possibly he shall never be able to separate them again as long as he lives, but darkness shall ever afterwards bring with it these frightful ideas.

So if a man receive an injury from another, and thinks on the man and that action over and over, by ruminating on them strongly, he so cements these two ideas together, that he makes them almost one; he never thinks on the man, but the place and displeasure he suffered, come into his mind with it, so that he scarce distinguishes them, but has as much aversion for the one as the other. Thus, hatreds are often begotten from slight and almost innocent occasions, and quarrels are propagated and continued in the world.

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Nor is its influence on the intellectual habits less powerful, tho' less observed. Let the ideas of being and matter be strongly joined, either by education or much thought; whilst these are still combined in the mind, what notions, what reasonings will there be about separate spirits? Let custom, from the very childhood, have joined figure and shape to the idea of God; and what absurdities will that mind be liable to about the deity? Some such wrong and unnatural associations of ideas will be found to establish the irreconcilable opposition between different sects of philosophy and religion; for we cannot suppose that every one of their followers will impose wilfully on himself, and knowingly refuse truth offered by plain reason. Some independent ideas, of no alliance to one another, are, by custom education, and the constant din of their party, so coupled in their minds that they always appear there together, and they can no more separate them in their thoughts, than if they were but one idea, and they operate as if they were so.

ASSOCIATION, in law, is a writ or patent sent by the king, either of his own motion, or at the suit of the plaintiff, to the judges of assize, to have others associated to them, to take the assize. Upon this patent of association, the king sends his writ to the justices of the assize, commanding them to admit these that are so sent.

ASSOILE, in our antient law-books, to absolve, free, or deliver one from excommunication.

ASSONANCE, in rhetoric or poetry, is where the words of a phrase or verse have nearly the same sound, or termination, but make no proper rhyme: these are usually accounted vicious in english, though the Romans sometimes used them with elegancy: as, *Militem comparavit, exercitum ordinavit, aciem lustravit.*

ASSONANT RHYMES, a resemblance of sound, not unfrequently used by spanish poets, instead of true rhymes; as *figiera* and *cubierta*.

ASSOS, a sea-port town of Natolia, situated about twelve miles south-east of Troas, in 27° 30' east longitude, and 38° 30' north latitude.

ASSUMPSIT, a voluntary or verbal promise, whereby a person assumes, or takes upon him to perform or pay any thing to another. When any person becomes legally indebted to another for goods sold, the law implies a promise that he will pay his debt; and if he do not pay it, the writ

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indebitatus assumptus lies against him; and will lie for goods sold and delivered to a stranger, or third person, at the request of the defendant: but the price agreed on must be proved, otherwise that action does not lie.

ASSUMPTION, a festival in the romish church, in honour of the miraculous ascent of the Virgin Mary, body and soul, into heaven: The greek church, who also observe this festival, celebrate it on the fifteenth of August, with great ceremonies.

ASSUMPTION, in logic, is the minor or second proposition in a categorical syllogism.

ASSUMPTION is also used for a consequence drawn from the propositions whereof an argument is composed. See the article **CONSEQUENCE**.

ASSUMPTION, in geography, a city of south America, situated near the mouth of the river Plata, and on the opposite shore to Buenos Ayres, in 60° west lon. and 34° south lat.

ASSUMPTIVE ARMS, in heraldry, are such as a person has a right to assume, with the approbation of his sovereign, and of the heralds: thus, if a person, who has no right by blood, and has no coat of arms, shall captivate, in any lawful war, any gentleman, nobleman, or prince, he is, in that case, entitled to bear the shield of that prisoner, and enjoy it to him and his heirs for ever.

ASSURANCE, in logic. See the articles **CERTITUDE**, **EVIDENCE**, and **DEMONSTRATION**.

ASSURANCE, or **INSURANCE**, in commerce. See the article **INSURANCE**.

Policy of ASSURANCE, a sort of contract, wherein one or more persons are become bound to make good any damages which may befall a ship, house, &c. by means of sea, fire, &c. or the like damages. See the article **POLICY**.

There are several offices of assurance from fire in London, as the Royal-exchange assurance, the Sun fire-office, the Hand-in-hand fire-office, the London assurance, &c. See the article **INSURANCE**.

There are also offices of assurance for life, in virtue whereof, when the person assured dies, a sum of money, as was agreed upon, becomes due to the person to whom the policy of assurance was granted.

ASSUROR, a merchant, or other person, who makes out a policy of assurance, and thereby insures a ship, house, or the like.

The assuror is not liable for what damages may arise from the negligence or other faults of the masters or mariners; or even from any defect in the things assured.

ASSURITANI, in church-history, christian heretics, a branch of the donatists, who held, that the son was inferior to the father, and the holy ghost to the son: they rebaptized those who embraced their sect; and asserted that good men only were within the pale of the church.

ASSYRIA, an antient empire of Asia, comprehending the modern provinces of Kurdistan, Diarbec, and Irac-arabic.

ASSYTHMENT, in the law of Scotland, is a compensation given for a man slain.

ASTER, **STAR-WORT**, in botany, a genus of the *syngenesia-polygamia* class of plants, with a radiated flower, the disk of which is composed of floscules, and its border of semifloscules; the receptacle is plane and naked, and the seeds are of an oblong figure, oval at top, and winged with down. See plate XXIII. fig. 3.

The seeds of star-wort are accounted deobstruent, its flowers cardiac, its leaves vulnerary, and the roots sudorific and alexipharmic, and consequently good in disorders of the breast and lungs.

ASTER SAMIUS, **SAMIAN EARTH**. See the article **SAMIAN EARTH**.

ASTERABAT, a city of Persia, capital of a province of the same name, situated on the southern shore of the caspian sea, in 54° east long. and 37° 30' north lat.

ASTERIA, in natural history, a beautiful pellucid gem of variable colours, as viewed in different lights; called also *oculus cati*, or cat's-eye.

The variable colours, which are a pale brown and white, seem to be lodged deep in the stone, and shift about as that is moved. It is nearly allied to the opals, from which, however, it is distinguished by its colour and superior hardness.

ASTERIA is also the name of an extraneous fossil, called in english the *star-stone*. See the article **STAR-STONE**.

ASTERIAS, in zoology, the *star-fish*. See the article **STAR-FISH**.

ASTERISK, a mark, in form of a star, *, placed over any word or sentence, to render it more conspicuous, or to refer the reader to the margin, or elsewhere, for a quotation, explanation, or the like.

ASTERISM, in astronomy, the same with constellation. See **CONSTELLATION**.

ASTEROPodium, a kind of extraneous fossil, of the same substance with the *asteria*.

teris, or star-stones, to which they serve as a base. See the article **STAR-STONE**.

ASTHMA, in medicine, a painful, difficult, and laborious respiration, occasioned by intolerable straitness of the lungs, which, as it disturbs the free circulation of the blood through the lungs, endangers a suffocation.

This disorder is attended with violent motions of the diaphragm, abdominal and intercostal muscles, to the very scapula, and pinnæ of the nostrils. It is usually divided into pneumonic and convulsive; the former of which is generally occasioned by abounding in gross, viscous, or purulent humours, collected in the cavities of the lungs, which stop up the passages of the air, and compress the bronchia. That kind called the convulsive asthma is occasioned by an irregular motion of the animal spirits, either by reason of an obstruction, or some other obstacle.

The asthma is either continual, or intermitting and periodical, and returns commonly when a sober regimen is not observed.

This disorder proves most violent while the patient is in bed, and in a prone posture, as in that case the contents of the lower belly bearing against the diaphragm, lessen the capacity of the breast, and leave the lungs less room to play.

The cure of the true or pneumonic asthma is by bleeding, after which emetics may be used; and if the paroxysm returns, epispastics, with glysters instead of purges. Infusions of *sim. equin.* or the juices thereof, are accounted excellent. Oxy-mel of quills and simple cinnamon-water, or garlic, are good in case of viscid and tough humours, where anodynes are very hurtful.

For the convulsive kind, the cure is attempted by antepileptics, antihysterics, antispasmodics, opiates, &c. In the time of the fit, a glyster is to be immediately given, and if no other ingredients for it be in readiness, recent urine will serve; after this, bleeding is to be ordered, unless where there is a contra-indication, and after this the emotion of the blood is to be allayed by nitrous and cinnabarine powders; with these the gentle diaphoretics may be joined, especially in case of a fever attending it, which very frequently happens. Where the case is very urgent, a small dose of the storax pill may be added to the powder, to be taken at night. Externally, spirit of wine and

camphire may be rubbed on the breast and shoulders, especially where the patient has been used to cupping, and has neglected it; rubbing the shoulders with a flannel, often has a good effect also; and fumigations may be used of amber, storax, and mastich, with the flowers of citrine stæchas. When the fit is off, the patient should use frequent washing the feet in warm water, and should be always blooded in the foot in spring and fall; he should also take gentle purges at times, and if the neglect of habitual cuppings, or suppressions of the hæmorrhoids, or, in women of the menses, have concurred, great care is to be taken to bring all back to their old state again, otherwise no radical cure can be expected: finally, a mixture of spirit of hartshorn, and tincture of salt of tartar, should be given to promote an equal distribution of the blood to all parts of the body.

ASTI, a city of Piedmont, in Italy, situated upon the river Panaro, about thirty miles east of Turin, in $8^{\circ} 15'$ east long. and $44^{\circ} 40'$ north latitude.

ASTORGA, a city of the province of Leon, in Spain, situated on the river Inerto, about thirty miles south-west of Leon, in $6^{\circ} 20'$ west long. and $42^{\circ} 20'$ north latitude.

ASTRACAN, a city of asiatic Russia, and capital of a kingdom of the same name. It is situated on the eastern shore of the river Wolga, about eighty miles north of the Caspian sea, in 52° east longitude, and 47° north latitude.

ASTRÆA, in astronomy, the same with virgo. See the article **VIRGO**.

The poets feign that Justice quitted heaven to reside on earth, in the golden age; but, growing weary of the iniquities of mankind, she left the earth, and returned to heaven, where she commenced a constellation of stars, and from her orb stills looks down on the ways of men.

ASTRAGAL, in architecture, a little round moulding, in form of a ring, serving as an ornament at the tops and bottoms of columns. See **COLUMN**.

Sometimes the astragal serves to separate the fasciæ of the architrave; in which case it is wrought chaplet-wise, with beads and berries. It is also used both above and below the lists, adjoining immediately to the dye, or square of the pedestal.

ASTRAGAL, in anatomy. See the article **ASTRAGALUS**.

ASTRAGAL, in gunnery, a round moulding incompassing a cannon, about half a foot from its mouth.

ASTRAGALOIDES, *WOOLY-ASTRAGALUS*, in botany, a genus of the *diadelphia decandria* class of plants, with a papilionaceous flower, and an oblong unilocular-podded fruit, containing several kidney-like seeds.

ASTRAGALUS, *MILK-VETCH*, in botany, a genus of the *diadelphia-decandria* class of plants, with a papilionaceous flower, and bilocular-podded fruit, containing kidney-like seeds.

Astragalus is said to be diuretic, and good for increasing the milk of wet nurses.

ASTRAGALUS, *αγραγάλος*, in anatomy, called also the *talus*, is the superior and first bone of the foot, according to its natural situation and connection with the leg, being articulated with the tibia and fibula, and with the calcaneum; having its head formed for the articulation with the os naviculare.

ASTRAL, something belonging to, or connected with the stars: thus, astral year is the same with siderial year.

ASTRANTIA, *BLACK MASTER-WORT*, in botany, a genus of umbelliferous plants, belonging to the *pentandria digynia* class of Linnæus, the flower of which is rosaceous, and collected into a sort of head; and its fruit is oval, obtuse, coronated, and striated. See plate XXIII. fig. 5.

ASTRICTION, among physicians, denotes the operation of astrigent medicines. See the next article.

ASTRINGENTS, *astringentia*, in pharmacy, medicines of the corroborative class, which, acting as a stimulus, crisp and corrugate the fibres into a more compact tone; corroborate the solids, which are weakened, and consolidate such as are corroded and wounded. Among the medicines of this class may be reckoned the herbs bunias, woad, cud-weed, rupture-wort, mint, yarrow, pimpinella, oak, fanicle, and nettles; the flowers of balaustines, red roses; the fruits of barberries, chestnuts, quinces, cypresses, galls, acorns, pomegranates, medlars, mulberries, myrtleberries, huckleberries, sloes, raspberries, service, and pine-apples; the bark of cinnamon, pomegranates, oak, and cork-tree; and the roots of bistort, tormentilla, and osmund-royal.

ASTROGNOSIA, the science of the fixed stars, or the knowledge of their names, constellations, magnitudes, &c.

ASTROITES, or *STAR-STONE*, in natural history, is so called on account of its resemblance to a star. It is controverted, among naturalists, whether they are parts of a petrified marine animal, or, as is more probable, a species of corals buried in the earth. The corals forming these stars are sometimes round, sometimes angular, and their columns are sometimes separated, and sometimes the striæ run into one another.

ASTROLABE, the name for a stereographic projection of the sphere, either upon the plane of the equator, the eye being supposed to be in the pole of the world; or upon the plane of the meridian, when the eye is supposed in the point of intersection of the equinoctial and horizon.

The astrolabe is otherwise called a planisphere. See the article *PLANISPHERE*. **ASTROLABE** is also an instrument for taking the altitude of the sun or stars at sea, being a large brass ring, A C B D (plate XXIII. fig. 4.) the limb of which, or a convenient part thereof A C, is divided into degrees and minutes, with a moveable index F G, which turns upon the center, and turns two sights: at the zenith is a ring A, to hang it by in time of observation, when you need only turn the index to the sun, that the rays may pass freely through both sights, and the edge of the index cuts the altitude upon the divided limb. This instrument, though not much in use now, if well made, and of great weight, that it may hang the steadier, is as good as most instruments that are used at sea for taking altitudes, especially between the tropics, when the sun comes near the zenith, and in calm weather.

ASTROLABE, among the antients, was the same as our armillary sphere. See the article *ARMILLARY*.

ASTROLOGICAL, something belonging to astrology.

ASTROLOGY, a conjectural science, which teaches to judge of the effects and influences of the stars, and to foretell future events by the situation and different aspects of the heavenly bodies. It may be divided into two branches, natural and judiciary, the former being the prediction of natural effects, as the changes of weather, winds, storms, hurricanes, thunder, floods, earthquakes, &c. and the latter that which pretends to foretell moral events, or such as have a dependence on the freedom of the will.

Natural astrology belongs to physiology,

Fig. 1. ASPHODEL.



Fig. 2. ASPLENIUM.



Fig. 3. ASTER, STAR-WORT.



Fig. 4. ASTROLABE.

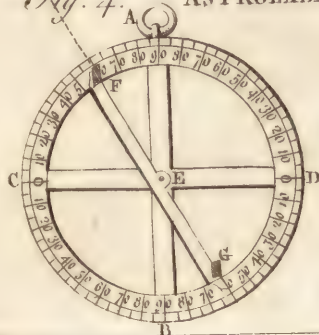


Fig. 5. ASTRANTIA.





or natural philosophy, and is only to be deduced *a posteriori* from phenomena and observations. To this part Mr. Goad chiefly keeps, in his two books of astrology, in which he pretends that inundations, and an infinite number of phenomena of that kind, may be explained from the contemplation of the stars. For this astrology also, Mr. Boyle has a just apology in his history of the air. But as for judicial or judiciary astrology, with all the idle conceits about the horary reign of planets, the doctrine of horoscopes, the distribution of the houses, the calculation of natiivities, fortunes, good or bad hours of business, and the like fatalities, they are mere levities, and may be plainly confuted by physical reasons, and are therefore justly rejected by all sound philosophers.

ASTRONOMICAL, in a general sense, something relating to astronomy: thus we say, astronomical calendar, characters, hours, &c. See **CALENDAR**, **HOURLY**, &c.

ASTRONOMICALS, a name sometimes given to sexagesimal fractions. See the article **SEXAGESIMAL**.

ASTRONOMY, that science which treats of the heavenly bodies, explaining the motions, times, and causes of the motions, distances, magnitudes, gravities, light, &c. of the sun, moon, and stars; the nature and causes of the eclipses of the sun and moon, the conjunction and opposition of the planets, and any other of their mutual aspects, with the time when any of them did or will happen.

As the heavens may be considered either as they appear to the naked eye, or as they are discovered by the understanding; hence astronomy may be divided into two branches, spherical and theoretical. Spherical astronomy is the consideration of the universe as it offers itself to our sight; under which head come all the appearances of the heavens, such as we perceive them, without any enquiry into the reason, the theory, or the truth of these appearances. Theoretical astronomy is the consideration of the true structure of the universe, accounting for the various phenomena of the heavenly bodies; the several parts of which may be seen under the articles **SYSTEM**, **SUN**, **STAR**, **PLANET**, **EARTH**, **MOON**, **SATELLITE**, and **COMET**.

With respect to its different states, astronomy is also divided into ancient and modern: ancient astronomy is such as the art stood under Ptolemy and his followers, who supposed the earth quiescent in

the center, and that all the heavenly bodies performed their revolutions round it. See the article **PTOLEMAIC System**. The modern or new astronomy is that which has been cultivated since the time of Copernicus, who revived Pythagoras and Philolaus's opinion of the motion of the earth, and laid the foundation of the true solar system. See the article **COPERNICAN System**.

Among the most celebrated astronomical writers we may reckon Ptolemy, who has preserved the observations of the ancients, Albategnius, who has given the observations of the Saracens, Sacro Bosco, Copernicus, Tycho Brahe, Clavius, Kepler, Galileo, Hevelius, Dr. Hook, Sir Jonas Moor, Mr. Huygens, Tacquet, Flamsteed, De la Hire, Gregory, Whiston, Dr. Halley, Keill, the two Cassinis, father and son, and the immortal Sir Isaac Newton, to whom we are indebted for astonishing discoveries in this science.

In painting, astronomy is represented like a woman, with a silver crescent on her forehead, an azure mantle and a watchet scarf, besprinkled with golden stars: or it may be represented by a lady in a starry habit, looking towards heaven, and holding an astrolabe in her right hand, and a table of astronomical figures in her left.

ASTROP-WELLS, in Northamptonshire, were recommended formerly by the physicians Willis and Clever, for the cure of the scurvy, asthma, &c.

ASTROSCOPE, an instrument composed of two cones, having the constellations delineated on their surfaces, whereby the stars may be easily known.

ASTRUM, a constellation. See the article **CONSTELLATION**.

ASTURIA, a maritime province of Spain, lying along the bay of Biscay, with Galicia on the west, and Biscay on the east. It gives the title of prince to the eldest son of Spain.

ASYLUM, a sanctuary, or place of refuge, where criminals shelter themselves from the hands of justice. It is pretended that the first asylum was built at Athens by the Heraclidæ, as a refuge for those who fled from the oppression of their fathers. Be that as it will, it is certain that the assyla of altars and temples were very ancient, and likewise those of tombs, statues, and other monuments of considerable personages: thus the temple of Diana at Ephesus was a refuge for debtors, the tomb of Theseus, for slaves; and Romulus, when he built Rome, left a certain space as an asylum to all persons, whether

whether freemen or slaves, with a political view of drawing together great numbers from all quarters to people his new city. The Jews had their asyla, the most remarkable of which were the six cities of refuge, the temple, and the altar of burnt offerings. This privilege began likewise to be enjoyed by the christian churches in the reign of Constantine, at which time the altar only and the inward fabric of the church were a place of refuge; but afterwards the whole precincts, nay even the graves of the dead, crosses, schools, &c. were comprehended in that privilege. As asyla were not intended originally to patronize wickedness, but as a refuge for the innocent, the injured and the oppressed, several crimes were excepted by law, for which the church could grant no protection; as 1. Protection was denied to public debtors. 2. To Jews who pretended to turn christians, in order to avoid suffering legal punishment for their crimes. 3. To heretics and apostates. 4. To slaves who fled from their masters. And, 5. To robbers, murderers, conspirators, ravishers, &c.

Modern sanctuaries are a great abuse of those ancient asyla of the christian church, in giving protection to almost all sorts of criminals, and so enervating the force of civil laws. The canon law of Gratian and the decretals of the popes, grant protection to almost all criminals; and Polydore Virgil censures the English, who did not even exempt traitors and rebels from flying to asyla: but at present we have no such practice, nor is there any privileged place in England allowed by law to screen offenders from justice.

ASYMMETRY, in a general sense, the want of proportion between the parts of any thing, being the contrary of symmetry. See the article **SYMMETRY**.

In mathematics it is used for what is more commonly called incommensurability. See **INCOMMENSURABLE**.

ASYMPTOTE, in geometry, a line which continually approaches nearer to another, but, though continued infinitely, will never meet with it: of these there are many kinds. In strictness, however,

The term asymptotes is appropriated to right lines, which approach nearer and nearer to some curve, of which they are said to be the asymptotes; but if they and their curve are indefinitely continued they will never meet.

The nature of an asymptote will be easily conceived, from considering the asymptote of the conchoid: for if C D E

(plate XXIV. fig. 1. n° 1.) be a part of the curve of a conchoid, and A its pole, and the right line M N be so drawn that the parts B C, G D, F E of right lines drawn from the pole A be equal to each other, then the line M N will be the asymptote of the curve, because the perpendicular D p is shorter than B C, and E P shorter than D p, and so on; and the points E and p can never coincide.

Asymptotes of the hyperbola are thus described. If C P (ibid. n° 2.) be a diameter of the hyperbola R A S, and C D be the semiconjugate of it; and if the line F E be a tangent in the point A, and A E = F A = C D; then, if the lines C G, C G, be drawn from the center C, through the points E and F, these lines C G, C G, will be the asymptotes of the hyperbola R A S. And if any right line L M be drawn parallel to the tangent F E, so as to cut the curve and the asymptotes, then will the parts L I, M m, be equal, and $L I \times M I = A E^2$; and moreover, any annulus or ring made by M m or L I, when the whole figure revolves about the diameter A P, will always be equal to a circle, whose diameter is A E.

Again, if one of the asymptotes be continued out to T (ibid. n° 3.), and the line T S R be drawn parallel to the diameter C Q, then $T R \times S R = A C^2$, and if the line P M be any where drawn parallel to the asymptote C S, then C P \times P M will be always of the same magnitude, that is, always a standing quantity.

The investigation of right-lined asymptotes may be found for curves of any order, without having recourse to serieses, by means of the general equation of that order, thus: Let the equation be $A y^2 + B x y + C x^2 + D y + E x + F = 0$. Suppose $y = a x + b + c x^{-1}$, &c. then will $A a^2 + B a + C = 0$; and by extracting the roots of this last equation, we shall

have a ; and b will be $= -\frac{D a + E}{2 A a + B}$, and $c = \frac{A b^2 + D b + F}{2 A a + B}$; and if the

equation be $A y^3 + B x y^2 + C x^2 y + D x^3 + E y^2 + F x y + G x^2 + H y + K x + L = 0$, the roots of this equation $A a^3 + B a^2 + C a + D = 0$, will give

a ; and b will be $= -\frac{A a^2 + B a + C}{3 E a^2 + 2 F a + G}$ and

$c = -\frac{3 A b^2 + B b^2 + E a b + F b + H a + K}{3 A a^2 + 2 B a + C}$ where

where

where *a* is the inclination of the asymptote to the absciss, *b* is the distance between the beginning of the absciss and the point in which the asymptote cuts the same, and *c* shews on which side of the asymptotes the legs of the curve lie.

Concerning asymptotes and asymptotical curves, it may be remarked, 1. That although such curves as have asymptotes, are of the number of those which do not include a space; yet it is not true, on the other hand, that wherever we have a curve of that nature, we have an asymptote also. 2. Of these curves that have an asymptote, some have only one, as the conchoid, cissoid, and logarithmic curve; and others two, as the hyperbola. See **HYPERBOLA**, **CONCHOID**, &c.

3. As a right line and a curve may be asymptotical to one another, so also may curves and curves: such are two parabolas, whose axes are in the same right line. See the article **PARABOLA**.

4. No right line can ever be an asymptote to a curve that is every where concave to that right line. 5. But a right line may be an asymptote to a mixed curve, that is partly concave, and partly convex, towards the same line. And, 6. All curves that have one and the same common asymptote, are also asymptotical to one another.

ASYMPTOTIC, something relating to asymptotes. See the preceding article.

ASYMPTOTIC SPACE, the same with hyperbolic space. See **HYPERBOLIC**.

ASYNDETON, in grammar, a figure which omits the conjunctions in a sentence: as in that verse of Virgil,

Ferte citi flammæ, date vela, impellite remas.

Asyndeton stands opposed to polysyndeton. See the article **POLYSYNDETON**.

ATARAXY, a term used by the stoics and sceptics, to denote that calmness of mind which secures us from all emotions arising from vanity or self-conceit. In this consisted the *summum bonum*, or sovereign good.

ATAXY, in a general sense, the want of order: with physicians it signifies the irregularity of crises and paroxysms of fevers.

ATCHIEVEMENT, in heraldry, denotes the arms of a person, or family, together with all the exterior ornaments of the shield, as helmet, mantle, crest, scrolls, and motto, together with such quarterings as may have been acquired by alliances, all marshalled in order.

ATELLANÆ, in roman antiquity, comic and satyric pieces presented on the theatre; but as in the latter times they grew excessively lewd, they were suppressed by order of the senate.

ATHAMADULET, the prime minister of the persian empire, as the grand visier is of the turkish empire.

The athamadulet is great chancellor of the kingdom, president of the council, superintendant of the finances, and is charged with all foreign affairs.

ATHAMANŶA, in botany, a genus of the *pentandria-digynia* class of plants, the general corolla whereof is uniform; the partial one consists of five inflexo-cordated unequal petals: there is no pericarpium; the fruit is ovato-oblong, striated, and divisible into two parts: the seeds are two, oval, striated, and convex on the one side, and plane on the other.

The root of this plant is the only part used in medicine. It is hot, dry, carminative, expelling wind, and of use in the colic and gripes. It is also alexipharmic, and good against pestilential distempers, being an ingredient in the theriaca and mithridate. It is good against the stone, and for stoppages of urine.

ATHANASIAN CREED, that supposed to be composed by Athanasius. See **CREED**.

ATHANATI, in persian antiquity, a body of cavalry, consisting of ten thousand men, always complete. They were called athanati because when one of them happened to die, another was immediately appointed to succeed him.

ATHANOR, in chemistry, a kind of fixed and large digesting furnace, made with a tower, so contrived as to keep a constant moderate heat for a considerable time, which may be increased or diminished at pleasure, by shutting the registers. It is also called *piger benricus*, slow harry, the philosophical furnace, or furnace of arcana, sometimes *uterus chemicus*, or *spagyricus*, and commonly the towered furnace. See **FURNACE**.

ATHEIST, *ἀθεός*, a person who denies the deity, who does not believe the existence of a God, nor a providence, and who has no religion at all, either true or false. An atheist, in general, is one who owns no being superior to nature; in which sense Spinoza may be said to be an atheist, as he allows no other god besides nature, or the universe, as it consists of men and other sensible beings. See **GOD**.

Plato distinguishes three sorts of atheists; first,

first, such as absolutely deny the existence of any gods; secondly, those who allow the existence of gods, but deny their taking any concern in human affairs, and so disbelieve a providence; thirdly, such as believe there are gods, but think that they are easily appeased, and remit the greatest crimes for a little prayer, or the like.

Some distinguish speculative atheists, or those who are so from principle and theory, from practical atheists, whose wicked lives incline them to believe, or rather to wish, that there were no God.

ATHELING, ADELING, EDLING, ETH-LING, or ETHELING, among our saxon ancestors, was a title of honour properly belonging to the heir apparent, or presumptive, to the crown. This honourable appellation was first conferred by king Edward the confessor, on Edgar, to whom he was great-uncle, when, being without any issue of his own, he intended to make him his heir.

ATHENÆA, *αθηναία*, in grecian antiquity, the same with panathenæa. See the article **PANATHENÆA**.

ATHENÆUM, in antiquity, a public place wherein the professors of the liberal arts held their assemblies, the rhetoricians declaimed, and the poets rehearsed their performances.

These places, of which there were a great number at Athens, were built in the manner of amphitheatres, encompassed with seats called *cunei*. The three most celebrated athenæa were those at Athens, at Rome, and at Lyons, the second of which was built by the emperor Adrian.

ATHENREE, a town of Ireland, in the county of Galway, and province of Connaught, situated about ten miles eastward of the city of Galway, in $8^{\circ} 50'$ west longitude, and $53^{\circ} 14'$ north lat.

ATHENS, an antient city of Greece, and capital of the province of Livadia, called by the Turks Setines.

It is situated in a large plain near the river Ilissus, about forty miles east of the isthmus of Corinth, in $24^{\circ} 15'$ east long. and 38° north latitude, and is still four miles in circumference.

ATHEROMA, in medicine, a tumour without pain or discolouring of the skin, containing in a membranaceous bag, matter like pap, intermixed with hard and stony corpuscles, &c.

An atheroma is oblong, hard, not easily impressed by the fingers, nor after the impression easy to restore itself. It is near akin to the meliceris and steatomas, and,

like them, is cured by section. See the articles **CYST** and *Encysted TUMOURS*.

ATHERTON, a town of Warwickshire, situated about ten miles north of Coventry, in $1^{\circ} 30'$ west longitude, and $52^{\circ} 40'$ north latitude.

ATHLETÆ, in antiquity, men of remarkable strength and agility, disciplined to perform in the public games. This was a general term, under which were comprehended wrestlers, boxers, runners, leapers, throwers of the disk, and those who practised in other exercises exhibited in the olympic, pythian, and other solemn sports, wherein there were prizes allotted for the conquerors. From the five usual exercises, the athlete were also denominated *πενταθλαι*, and by the Latins *quinqvartiones*.

ATHLETIC, something belonging to the athlete: thus, we say, athletic crown, athletic diet, athletic habit, &c. See the article **CROWN**, &c.

ATHLONE, a strong town in the county of Westmeath, in the province of Connaught in Ireland, situated on the river Shannon, about sixty miles west of Dublin, in $8^{\circ} 5'$ west longitude, and $53^{\circ} 20'$ north latitude.

ATHOL, a district of Perthshire in Scotland, from whence the antient and noble family of Murray takes the title of duke.

ATHOS, a mountain of Macedon, in Greece, called by the natives Agios Oros, and by the Italians Monte Santo.

ATHY, a town of Ireland, in the county of Kildare and province of Leinster, situated on the river Barrow, about ten miles south of Kildare, in $7^{\circ} 5'$ west longitude, and 53° north latitude.

ATINGA-GUACU-MUCU, in ornithology, a beautiful brasilian bird, of the *flur-nus* or starling-kind. See plate XXIV. fig. 2, and the article **STARLING**.

ATLANTIC OCEAN, that bounded by Europe and Africa on the east, and by America on the west.

ATLANTIDES, in astronomy, the same with pleiades.

ATLAS, the name of a ridge of mountains, running from east to west through the north of Africa, from whence the Atlantic ocean took its name.

ATLAS, in architecture, the same with telamon. See the article **TELAMON**.

ATLAS, in anatomy, the name by which some call the first vertebra of the neck; so called in allusion to mount Atlas.

ATLAS, in matters of literature, denotes a book of universal geography, containing

ing maps of all the known parts of the world.

ATMOSPHERE, in physiology, the vast collection of air with which the earth is surrounded for a considerable height. See the article **AIR**.

The reason why this body of air is so transparent as to be invisible, is owing to the great porosity thereof; the pores and interstices of air being so very great and large, it admits the light not only in right lines, but in such great and plentiful rays, that the brightness and universal lustre thereof not only renders the air diaphanous, but entirely hinders the opacity of the very small particles of air from being at all seen; and therefore the whole body of air must consequently be invisible. See the article **OPACITY**.

The atmosphere is not only admirably fitted for the respiration and nourishment of animals, for the growth of vegetables, the production and propagation of sounds, &c. but helps also to make our habitable earth that beautiful scene of variety which it now is. If it were not for the atmosphere, the sun and stars would give us no light, but just when we turn our eyes upon them: the brightness of the sun would indeed be greater than it is; but, if we turned our eyes from him towards any other part of the heaven, it would appear as dark and full of stars as in a bright star-light in winter. As for the various bodies, which are upon the earth, they would all, without the atmosphere, appear to us as dark as at midnight, except only those parts of them which happened to be in such a position, that the rays of the sun, falling upon them, were reflected to our eyes. It is easy to imagine how much of the beauty of the visible creation would be lost in these circumstances, besides the insupportable prejudice to the eyes of all creatures, by passing so suddenly from pitchy darkness to excessive light. The numberless small particles of various kinds, which float in the air, receive the light from the sun, and like so many small specula or looking-glasses, reflect and scatter it through the air, and this occasions that light which we see in the day-time, by which our eyes are affected so strongly, as to render the fainter light of the stars insensible. By this means the stars are illuminated all round us by the sun, not only whilst he is above our horizon, but also for some time before his rising, and after his setting, so long as

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any of his rays can either directly, or by refraction, reach any part of the atmosphere within our visible horizon; for the air, as well as all other mediums which transmit light, refracts or bends the rays of it, if they come into it from a different medium. This property of the air is exceedingly beneficial to the inhabitants of the earth, as it lengthens the days by the addition of the twilight; but it gives astronomers some trouble, as it changes a little the places of all the heavenly bodies, and makes them appear higher than they really are, and must therefore be taken into the account, if we would be exact. The ancients were not well acquainted with the refraction of the air, which renders many of their observations of the heavenly bodies, especially near the horizon, liable to uncertainty. See the articles **LIGHT**, **REFLECTION**, **REFRACTION**, **TWILIGHT**, **STAR**, &c.

Height of the ATMOSPHERE. If the air were of an equal density throughout, the height of the atmosphere might be determined: for it appears from experiments, that a column of air 72 feet high is equal in weight to one inch of water of the same base; so that the density of air is to that of water as 1 to 864. It has also been found by experiment, that the weight of a column of air, reaching to the height of the atmosphere, will be equal to the weight of a column of water of the same base, and 32 feet, or 384 inches high. Hence 864×384 gives 331776 inches, or somewhat more than five miles for the height of the atmosphere, were the density of the air every where the same as at the earth. But since its density decreases with the pressure, it will be more rarefied and expanded the higher we go; by which means the height of the atmosphere becomes indefinite, and terminates in pure æther. See **ÆTHER**.

However, though it is impossible to assign the real height of the atmosphere, it nevertheless appears certain from experiments, that 45 or 50 miles is the utmost height where the density is sufficient to refract a ray of light; and, therefore, that may be accounted the altitude of the atmosphere, to the least sensible degree of density.

Weight of the ATMOSPHERE. It has been already observed, under the article **AIR**, that the atmosphere is a perfect chaos of different effluvia, consisting of almost all kinds of corpuscles, confusedly jumbled together, and constituting one mass:

F f

water,

water, fire, volatile salts, oils, &c. are there blended together, in different proportions. Hence it is no wonder that the gravity of the atmosphere should vary, according as the more light or more ponderous of these constituent parts prevail in it: and, in fact, it is found sometimes to sustain a pillar of mercury 31 inches high, in the barometer; when, at others, it will raise the mercury, but to the height of 28 inches. Taking therefore $29\frac{1}{2}$ inches for the mean altitude of the mercury, a column of it, whose base is one square inch, weighs about 15 pounds, which is equal to the pressure of the air upon every square inch. Hence, supposing the surface of a man's body to be $14\frac{1}{2}$ square feet, the pressure of the air sustained by him will be 31320 pounds, or nearly 14 tons, at a medium: whereas, when the air is lightest, it will be only $13\frac{1}{5}$ tons; and when heaviest, $14\frac{3}{10}$ tons, the difference of which is $1\frac{1}{10}$ ton, = 2464 pounds, wherewith we are compressed more at one time than at another.

This great difference of pressure must greatly affect us, in regard to the animal functions, and consequently with respect to health. If a person, for instance, be asthmatical, he will find his disorder increase with the levity of the air. Again, the reason why we think the air lightest in fine weather, when it is really heaviest, is because the greater pressure constricts the fibres and nerves, and thereby makes them more vigorous than ordinary: whereas, on the contrary, when this pressure is lessened by near 2500 lb the fibres are relaxed, and a gloomy inactivity and heaviness ensues.

Since the air, says sir Isaac Newton, is compressed by the weight of the incumbent atmosphere, and the density of the air is proportionable to the force compressing it, it follows, by computation, that at the height of about 7 english miles from the earth, the air is four times rarer than at the surface; and at the height of 14 miles, it is 16 times rarer than at the surface; and at the height of 21, 28, or 35 miles, it is respectively 64, 256, or 1024 times rarer; and at the height of 70, 140, and 210 miles, it is about 1000000, 1000000000000, or 1000000000000000000000 times rarer; and so on in a geometrical proportion of rarity, compared with the arithmetical proportion of its height.

The weight of the atmosphere, which presses upon every body, being equal to

so many fifteen pounds, as the surface of the body contains square inches, the reason may be asked, why men, beasts, houses, &c. are not crushed to pieces by such a prodigious weight of air? This is owing to the equilibrium of the internal air, or the air included in all bodies, which though it be small, can, by its reaction, counterpoise and resist the pressure of the external air, how great soever it be, as is proved by several experiments upon the air-pump, already mentioned under the article AIR. See also the articles ACTION and REACTION.

If it be required to find the weight of the whole atmosphere upon the earth's surface, we may proceed thus: suppose the earth's diameter in round numbers 8000 miles, the area of a great circle will be $8000 \times 8000 \times 0.7854 = 50266400$ square miles, which multiplied by 4 gives 201065600 square miles for the surface of the earth; but, because we took the diameter a little too large, we may take 200,000,000 for the number of square miles in the earth's surface; in one square mile are $(5280 \times 5280 =)$ 27878400 square feet, therefore, on the earth's surface we have 5575680000000000 square feet, which multiplied by 2660 (the pressure on each square foot) gives 14831308300000000000 pounds troy for the whole pressure.

For measuring the different degrees of heat, weight, and moisture of the atmosphere, instruments have been invented. See the articles THERMOMETER, BAROMETER, and HYGROMETER.

ATMOSPHERE of the moon. See MOON.

ATMOSPHERE of the sun. See SUN.

ATOLLENS OCULI, in anatomy, the same with elevator. See ELEVATOR.

ATOM, *ἄτομος*, in philosophy, a particle of matter, so minute as to admit of no division.

Atoms are the *minima natura*, and are conceived as the first principles or component parts of all physical magnitude. However, atoms are not accounted indivisible on account of their want of extension (for they have the three dimensions of physical magnitude) but they are conceived indivisible on account of their solidity, hardness, and impenetrability, which leave no vacancy for the admission of any foreign force, to separate and disunite them, and consequently exclude a division. Thus it is necessary they should be indissoluble, in order to their being incorruptible, which quality they

must

must be possessed of, as being the pre-existent matter of which bodies were made. Sir Isaac Newton adds, that it is required they should be immutable, in order to the world's continuing in the same state, and bodies being of the same nature now as formerly; from which considerations the antients were led to assert the eternity of atoms, as whatever is immutable, must be eternal.

The antients went farther in the doctrine of atoms: they ascribed gravity to them; and, in consequence, maintained, that they were endued with motion: and farther observing, that their falling perpendicularly could not join or unite together, they superadded a fortuitous motion sideways, and provided them with certain hooked parts, to enable them the better to hang together, whence, from a casual jumble of these hooked atoms, they supposed the universe to have been formed: Hence,

ATOMICAL philosophy, or the doctrine of atoms, a system which, from the hypothesis, that atoms are endued with gravity and motion, accounted for the origin and formation of all things. This philosophy was first broached by Mofchus, sometime before the trojan war, but was much cultivated and improved by Epicurus, whence it is denominated the epicurean philosophy. See the article **EPICUREAN PHILOSOPHY**.

ATONEMENT, the same with expiation. See the article **EXPIATION**.

ATONICS, in grammar, words not accented. See the article **ACCENT**.

ATONY, *αλονία*, in medicine, a defect of tone or tension, or a laxity or debility of the solids of the body, occasioning faintings, weaknesses, &c. Some physicians ascribe the causes of all distempers to relaxation, stricture, or a mixture of these.

ATRA BILIS, in antient medicine, the black bile, one of the humours of the antient physicians; which the moderns call melancholy. See the articles **MELANCHOLY** and **HUMOUR**.

ATRACTYLIS, in botany, a genus of the *Syngenesia-polygamia* class of plants, with radiated flowers, and compressed seeds, coronated with a plumose down, and standing on a plane villose receptacle.

ATRAGENE, in botany, a genus of the *polyandria-polygynia* class of plants, the flower of which consists of twelve petals, and its seeds are caudated.

ATRAPHAXIS, in botany, a genus of

the *hexandria-digynia* class of plants, the flower of which consists of two roundish, sinuated and permanent petals; and its cup encloses a single, roundish, and compressed seed. Dillenius reckons it only a species of *atriplex*.

ATRI, a town of the farther Abruzzo, in the kingdom of Naples, situated in 15° 20' east longitude, and 42° 40' north latitude.

ATRIPLEX, *ORACH*, in botany, a genus of the *polygamia-monoecia* class of plants, without any flower petals: the cup of the female flower is composed of two leaves, inclosing a single and compressed seed: whereas that of the hermaphrodite flower is composed of five leaves, and encloses a single, roundish, and depressed seed.

Atriplex is esteemed cooling and emollient; and its seeds, given internally, diuretic, and good in disorders of the uterus.

ATRIUM, or **PORCH**. See **PORCH**.

ATROPA, in botany, a genus of the *pentandria-monogynia* class of plants, the flower of which consists of a single funnel-shaped petal, the fruit is a globose berry, containing two cells, wherein the seeds inclosed are numerous and kidney-shaped.

ATROPHY, *ατροφία*, in medicine, a disease, wherein the body, or some of its parts, do not receive the necessary nutriment, but waste and decay incessantly. This is a disorder proceeding from the whole habit of the body, and not from any distemper of the entrails: it is attended with no remarkable fever, and is natural in old age, which atrophy is called *atrophia senilis*.

Atrophy is either nervous, or the effect of immoderate evacuations. A nervous atrophy is that which owes its beginning to a bad and morbid state of the spirits, or to the weakness or destruction of the tone of the nerves; whence a weakness and an universal consumption of the body proceeds, for want of a due assimilation of the nutritious juice: so that from the original of the disease, there is a defect of appetite, and a bad digestion in the stomach, arising from an imperfect elaboration and volatilization of the chyle.

An atrophy from inanition proceeds from a preternatural defect or subtraction of the nutritious juice, which varies according to the different outlets of the body, whether by nature or by art. See the article **CONSUMPTION**.

ATTACHING, or **ATTACHMENT**, in law, the taking or apprehending of a person, by virtue of a writ or precept.

It is distinguished from an arrest in this respect, that whereas an arrest lies only on the body of a man, an attachment is oftentimes on the goods only, and sometimes on the body and goods; there is this farther difference, than an arrest proceeds out of an inferior court by precept only, and an attachment out of a higher court, either by precept or writ.

An attachment by writ differs from distress, inasmuch that an attachment does not extend to lands, as a distress does; and a distress does not touch the body, as an attachment does.

In the common acceptation, an attachment is the apprehension of a man's body, to bring him to answer the action of the plaintiff.

ATTACHMENT out of the chancery is obtained upon an affidavit made, that the defendant was served with a subpoena, and made no appearance; or it issueth upon not performing some order or decree. Upon the return of this attachment by the sheriff, *quod non est inventus in balliva sua*, another attachment, with a proclamation, issues; and if he appears not thereupon, a commission of rebellion.

ATTACHMENT out of the forest, is one of the three courts held in the forest. The lowest court is called the court of attachment, or wood-mote court; the mean, swan-mote; and the highest, the justice in eyre's seat.

This attachment is by three means, by goods and chattles, by body, pledges, and mainprize, or the body only. This court is held every forty days throughout the year, whence it is called forty-days court.

ATTACHMENT of privilege, is by virtue of a man's privilege to call another to that court whereto he himself belongs, and in respect whereof he is privileged to answer some action.

Foreign ATTACHMENT, is an attachment of money or goods, found within a liberty or city, to satisfy some creditor within such liberty or city.

By the custom of London, and several other places, a man can attach money or goods in the hands of a stranger, to satisfy himself.

ATTACHIAMENTA bonorum, in our old statute books, imports a distress taken upon the goods or chattles of a person sued

for a personal estate, or debt, by the legal attachiators, or bailiffs, as a security to answer the action.

ATTACHIAMENTA de spinis & bosco, denotes an antient privilege granted to the officers of forests, to take to their own use thorns, brush, and windfalls within their own precincts or liberties.

ATTACK, a violent attempt upon any person or thing, an assault, or the act of beginning a combat, or dispute.

ATTACK, in the military art, is an effort made to force a post, break a body of troops, &c. See the article **ASSAULT**.

ATTACK of a siege, is a furious assault made by the besiegers with trenches, covers, mines, &c. in order to make themselves masters of a fortress, by storming one of its sides. If there are two or three attacks made at the same time, there should be a communication betwixt them.

False ATTACKS are never carried on with that vigor and briskness that the other is; the design of them being to favour the true attack, by amusing the enemy, obliging the garrison to a greater duty in dividing their forces, that the true attack may be more successful.

To ATTACK in flank, is to attack both sides of the bastion.

ATTAINER, in law, is when a man has committed felony or treason, and sentence is passed upon him for the same. The children of a person attainted of treason, are, thereby, rendered incapable of being heirs to him, or to any other ancestor; and if he were noble before, his posterity are degraded, and made base: nor can this corruption of blood be salved, but by an act of parliament, unless the sentence be reversed by a writ of error.

Attainder is twofold, either by appearance, or by process.

ATTAINER by appearance, is either by battle, by confession, or by verdict. By battle, is when the party appealed by another, choosing rather to try the truth by combat than by jury, is vanquished. Attainder by confession, is either by pleading guilty at the bar, and not putting himself upon trial by the jury, or before the coroner in sanctuary, where, in antient times, he was obliged to renounce the realm. Attainder by verdict, is when the prisoner at the bar pleads not guilty to the indictment, and is pronounced guilty by the jury.

ATTAINER by process, otherwise called **attainder by default**, is where a party flies,

flies, or does not appear, after being three times publicly called in the county court, and at last upon his default, is pronounced guilty.

Bill of ATTAINDER, a bill brought into parliament, for attainting, condemning, and executing a person for high treason.

ATTAINT, in law, *attinēda*, a writ which lies against a jury that have given a false verdict in any court of record, in a real or personal action, where the debt or damages amount to above forty shillings.

If the verdict be found false, the judgment by common law was, that the jurors meadows should be ploughed up, their houses broken down, their woods grubbed up, all their lands and tenements forfeited, &c. but by statute the severity of the common law is mitigated, where a petty jury is attainted, and there is a pecuniary penalty appointed.

But if the verdict be affirmed, such plaintiff shall be imprisoned and fined.

ATTAINT, among farriers, a knock, or hurt in a horse's leg, proceeding either from a blow with another horse's foot, or from an over-reach in frosty weather, when a horse being rough shod, or having shoes with long calkers, strikes his hinder feet against his fore-leg.

ATTAINTED, **ATTAINTUS**, or **AT-TINCTUS**, in law, is applied to a person's being found guilty of any crime or offence, especially treason or felony, by due course of law.

ATTENDANT, or **ATTENDENT**, in the general acceptation. See the articles **ASSISTANT**, **RETINUE**, and **SATELLITES**.

ATTENDANT, **ATTENDENS**, in law, one that owes duty or service to another, or in some manner depends upon him, as a widow endowed of lands by a guardian, shall be attendant upon him.

ATTENTION, *attentio*, the applying the ear or the mind assiduously to any thing said or done, in order to acquire the knowledge thereof.

Attention of the mind is more properly an act of the will than of the understanding, wherewith the will summons the understanding from the consideration of other objects, to the thing in hand.

Attention, in regard of hearing, is the stretching the membrana tympani, to make it more susceptible of sounds, or adjusting the tension of that membrane to the proper key or tone of the sound,

ATTENUANTS, in pharmacy, medicines which resolve the viscosity of the humours in the human body; thereby promoting their circulation as well as the discharge of all noxious and excrementitious matter.

When these medicines act upon fluids lodged in the capillary vessels, they get the appellation of aperitives, or aperients, as they do that of expectorants, when they promote a discharge of the viscid humours in the lungs. See the articles **APERIENTS** and **EXPECTORANTS**.

Of the vegetable kingdom, the whole tribe of acrid and bitter plants, are attenuants; of the animal kingdom, the volatile salts, as sal armoniac, and salt-petre; and of the mineral kingdom, the mineral acid salts, as vitriol, sea-salt, glauher's salts, &c.

Attenuants are recommended in the inflammatory diseases of winter, along with other medicines. See **INFLAMMATORY**.

ATTENUATION, the act of attenuating, or making a fluid more thin. See the article **ATTENUANTS**.

ATTESTATION, the act of affirming, or witnessing, the truth of something, more especially in writing.

ATTIC, *atticus*, any thing relating to Attica, or to the city of Athens: thus, attic salt, *sales attici*, in philology, is a delicate poignant sort of wit and humour peculiar to the athenian writers; attic witness, *atticus testis*, a witness incapable of corruption, &c.

ATTIC, in architecture, a sort of building wherein the roof or covering is not to be seen; thus named, because the buildings at Athens were generally of this form.

ATTIC ORDER, a small order raised upon a large one, by way of crowning, or to finish the building; or it is, according to some, a kind of rich pedestal, sometimes used for the convenience of having a wardrobe, or the like; and instead of columns, has only pilasters of a particular form, and sometimes no pilasters at all. The name attic is also given to a whole story into which this order enters; this little order being always found over another greater one.

ATTIC of a roof, a kind of parapet to a terras, platform, or the like.

ATTIC continued, that which encompasses the whole circumference of a building, without any interruption, following all the jets, the returns of the pavilions, &c.

ATTIC interposed, one situated between two tall

fall stones, sometimes adorned with columns or pilasters.

ATTIC base, a peculiar kind of base used by the antient architects in the ionic order, and by Palladio, and some others, in the doric. This is the most beautiful of all bases. See the article **BASE**.

ATTIRE, in botany, a name given by some to the generative parts of plants; used by others, to denote the third part or division of the flower of a plant, the other two being the empalement and the foliation, or the cup and the flower petals.

ATTIRE, in hunting, signifies the head or horns of a deer. See the article **HEAD**.

The attire of a stag, if perfect, consists of bur, pearls, beam, gutters, antler, sur antler, royal, sur royal, and croches; of a buck, of the bur, beam, brow-antler, advancer, palm, and spellers.

ATTITUDE, in painting and sculpture, the gesture of a figure, or statue; or it is such a disposition of their parts, as serves to express the action and sentiments of the person represented.

ATTLEBURY, a market town of Norfolk, about eighty miles north-east of London, situated in 40° east longitude, and 52° 30' north latitude.

ATTOCK, a city on the eastern frontiers of Perha, capital of a province of the same name, and situated on the river Attock, in 72° east longitude, and 33° north latitude.

ATTOLENS, in anatomy, an appellation given to several muscles, otherwise called levators and elevators.

ATTORNATO FACIENDO, &c. a writ commanding a sheriff, or steward, to admit an attorney to appear for a person who owes suit to the county court, court baron, &c.

ATTORNEY, in a general sense, a person appointed by another to do something in his stead.

ATTORNEY, at law, one who is retained to prosecute or defend a law-suit.

Attornies being properly those who sue out writs or process, or commence, carry on, and defend actions, in any of the courts of common law, are distinguished from solicitors, as the latter do the like business in the courts of equity; and none are admitted, either as attorney or solicitor, unless they have served a clerkship of five years, been enrolled, and taken the oath in that case provided; and the judges of their respective courts are

required to examine their several capacities.

By a late order of all the judges, all attornies are to be admitted of some inns of court, or chancery, (except house-keepers in London and Westminster, &c.) and no attorney shall put himself out of that society, into which he is admitted, till he is admitted to some other society, and deliver a certificate thereof; and all attornies are to be in common at the times ordered by the society to which they belong, otherwise shall be put out of the roll of attornies.

Attornies may be punished for ill practices; and if an attorney, or his clerks, of which he must have but two at one time, do any thing against the express rules of the court, he or they may be committed.

Neither a plaintiff or defendant may change his attorney without rule of court, whilst the suit is depending; and attornies are not generally obliged to deliver up the writings in their hands, till their fees are satisfied: likewise, an action does not lie against an attorney, for what he advises in the way of his profession: yet, if an attorney plead any plea, or appear without warrant from his client, action of the case lies against him.

Attornies have the privilege to sue and be sued only in the courts of Westminster, where they practise; and they shall not be chosen into offices against their will.

ATTORNEY of the dutchy of Lancaster is the second officer in that court, and seems to be there, for his skill in the law, placed as assessor to the chancellor of the court.

ATTORNEY GENERAL, is a great officer under the king, created by letters patent, whose office it is to exhibit informations, and prosecute for the crown in criminal causes; and to file the bills in the exchequer, for any thing concerning the king in inheritance or profits. To him come warrants for making of grants, pardons, &c.

Letter of ATTORNEY. See **LETTER**.

Warrant of ATTORNEY. See **WARRANT**.

ATTOURNMENT, or **ATTORNMENT**, in law, a transfer from one lord to another, of the homage and service a tenant makes; or that acknowledgment of duty to a new lord.

Thus, when one is tenant for life, and he in reversion grants his right to another,

it is necessary the tenant for life agree thereto, which is called attournment, and without which, nothing can pass by the grant. If the grant be by fine in court of record, the tenant shall be compelled to attourn.

ATTRACTION, *attractio*, in natural philosophy, an indefinite term, applicable to all actions whereby bodies tend towards one another, whether in virtue of their weight, magnetism, electricity, impulse, or any other latent power.

It is not therefore the cause determining the bodies to approach, that is expressed by the word attraction; but the effect, or approach itself.

That there are such tendencies in the material world, is beyond all doubt, being obvious to the most inattentive observer; and it is no less evident, that many of the phenomena of nature are the result hereof.

Philosophers generally reckon four different sorts of attraction, *viz.* that of cohesion, of electricity, of magnetism, and gravitation.

Attraction of cohesion, is peculiar to the component particles of bodies, by virtue of which, they are firmly connected and held together. The laws and properties of this attraction are the following.

1. It is very discernible and most powerful in corpuscles, or the smallest particles of matter.
2. It is mutually exerted between those particles; or, they mutually attract, and are attracted by each other.
3. The sphere of attraction, or extent of this power, is greater in some particles of matter than in others, but very small at the outermost: for,
4. This power is insensible in solid bodies in the least sensible distance, acting as it were only in contact; and, therefore,
5. It must be nearly proportional to the quantity of contiguous surfaces; or the parts of the bodies cohere most strongly, whose touching surfaces are largest.
6. This power must decrease, as the squares of the distances increase; because it must be supposed to issue from each particle in right-lined directions.
7. Where the sphere of attraction ends, there a repelling power begins; by which the particles, instead of attracting, repel and fly from each other.
8. By this power, the small portions or drops of a fluid, conform themselves to a spherical figure.

The first and second of these properties, are evident from various experiments; as the sudden union of two contiguous

drops of mercury, water, &c. the strong adhesion of two leaden balls, which touch by polished surfaces; as also of glass-planes, and crystal buttons, the ascent of water between glass-planes, and in capillary tubes; the rising of water by the sides of a glass vessel, and into tubes of sand, ashes, sugar, sponge, and all porous substances.

The third property is proved by the sticking or adhering of water to substances, which by mercury are left dry. The fourth and fifth properties are evinced by the hyperbolic curve, formed by the superficies of a fluid ascending between glass-planes touching each other on one side. The sixth property is evident. The seventh appears from the ascent of steam, or vapour, from humid or fluid bodies; and the eighth property is manifest by drops of water falling on dust.

From this account of the attraction of cohesion, we have a rational solution of several very curious and surprising phenomena; as why the parts of bodies adhere and stick so firmly together; why some are hard, others soft; some fixed, others fluid; some elastic, others void of elasticity: all which arise from the different figures of the particles, and the greater or less degree of attraction consequent thereupon. On this principle, we account for the manner in which plants imbibe the nutritive juices, by the fibres of the roots; also for the rise of the sap in vegetables, and for the whole œconomy of vegetation. Hence the rationale of the various secretions of fluids by the glands, and their wonderful circulation through the fine capillary vessels. Hence also the reason of soldering and gilding metals; also of melting, or fusion, by heat. Hence also the exhalation of vapours by the heat of the sun or fire; the aggregation of aqueous particles in the air, forming the drops of rain. We hence see the reason of distillation, filtration, dissolution, digestion, sublimation, precipitation, crystallization, and the other operations of chemistry and pharmacy. Lastly, it is by this power of attraction and repulsion, that we are to account for those wonderful phenomena of subterranean accensions and explosions; of vulcano's and earthquakes; of hot springs, damps, and suffocating exhalations in mines, &c. Attraction and repulsion differ in no other respects than this, that the attractive virtue, in the first case, carries bodies towards the attracting body;

body; and, in the latter, it carries them from it. In each case, the particles are moved in the same manner among themselves by the attracting, electric, or magnetic power. See the articles COHESION and REPULSION.

The second species of attraction, is that of electrical bodies, as glass, amber, sealing-wax, jet, &c. for the properties of which, see ELECTRICITY.

For the properties of the third kind of attraction, see the article MAGNET.

The fourth kind of attraction, *viz.* that of gravitation, though reckoned a distinct species from that of cohesion; yet, when well considered, may be found perhaps to differ from it no otherwise than as a whole from the parts: for the gravity of large bodies may be only the result or aggregate of the particular powers of the constituent particles, which singly act only in contact, and in small distances; but with their joint forces, in vast quantities, produce a mighty power, whose efficacy extends to very great distances, proportional to the magnitudes of the bodies.

This attractive force of gravity is, to sense, the same for any distance near the surface of the earth; because such distance does not sensibly alter the distance from the center of the earth. But when the distance is so great as to bear a considerable proportion to the semi-diameter of the earth, then will the power of gravity decrease very sensibly: thus, at the distance of the moon, which is, at a medium, about sixty semi-diameters of the earth, the power of gravity will be to that on the earth's surface, as 1 to 3600. See the articles GRAVITY, GRAVITATION, and CENTRAL FORCES.

As the attraction of cohesion is the cause of the solidity of small bodies, so is the attraction of gravitation that chain, which being diffused over the solar system, preserves the planets in their orbits, and makes them revolve about the center of the system. See SYSTEM.

That the attraction of gravitation and cohesion is the act of an immaterial cause, in virtue whereof inactive matter performs the offices for which it was designed; or that these dispositions in bodies are not the result of any mechanical cause whatever; that is, such as may arise from the effluvia of bodies, or the action of any other material substance, Mr. Rowing demonstrates as follows: In the first place it is well known, that,

if gravity acts upon bodies with the same degree of intenseness, whether they be in motion or at rest, it may be demonstrated, that bodies, when projected, will describe parabolas; and that, when vibrating in cycloids, their vibrations will be isochronous, &c. In the next place, it is well known, that bodies, when projected, do describe parabolas, and that, when vibrating in cycloids, their vibrations are isochronous, &c. From which two properties it demonstratively follows, that if gravity be the cause of the two abovementioned effects, it must act upon bodies with the same force, whether they be in motion or at rest. Again, it is well known, that if attraction of cohesion acts upon rays of light with the same degree of intenseness, whatever be the velocity they move with, it may be demonstrated, that the ratio of the sine of the angle of incidence to the sine of the angle of refraction will be given. But in refraction of light, the ratio of these sines is given in fact; if, therefore, attraction of cohesion be the cause of the refraction of light, it must act upon rays of light with the same intenseness, whatever velocity they move with. See the articles LIGHT, REFRACTION, &c.

But no effluvia of bodies, no material substance, and, in short, no material cause whatever, can act with the same intenseness, or have the same effect upon a body in motion, as upon the same body at rest; because body can only act upon body, according to the sum or difference of their motions. It remains therefore, that the two dispositions herein mentioned are not the result of any material cause whatever. See the article MOTION.

Under the articles FLUID and CAPILLARY TUBES, may be seen how any fluid will ascend above the common surface in capillary tubes, &c. by means of attraction; but the most notable and obvious motion of fluids, arising from attraction, is that of the tides; the theory of which we have explained at large under the article TIDES.

ATTRACTIVE, *attractivus, attractrix*, something that has the power and property of attraction. See ATTRACTION.

ATTRACTIVE POWER, or **FORCE**, *vis attractiva*. See the articles POWER and ATTRACTION.

ATTRACTIVES, or **ATTRACTIVE REMEDIES**, medicines applied externally, that by their warmth and activity, penetrate the pores, mixing with, and rarefying all

obstructed matter, so as to fit it for discharge, upon laying open the part. These are the same with what we call drawers, ripeners, maturants, and digestives.

The principal simples of this class are most kinds of fat, the dung of pigeons and cows, bran, yeast, herring, melilot, tobacco, oil, pitch, resin, frankincense, &c. See the article SUPPURATIVES.

ATTRIBUTE, *attributum*, in a general sense, that which agrees with some person or thing; or a quality determining something to be after a certain manner. Thus, understanding is an attribute of mind, and extension an attribute of body. That attribute which the mind conceives as the foundation of all the rest, is called its essential attribute; thus, extension is by some, and solidity by others, esteemed the essential attributes of body or matter.

ATTRIBUTES, in theology, the several qualities or perfections of the divine nature, or such as we conceive to constitute the proper essence of God; as his wisdom, power, justice, goodness, &c. The heathen mythologists divided the deity into as many distinct beings as he had attributes. Thus his power was Jupiter; his absolute will, Fate; his wrath and vengeance, Juno, &c.

ATTRIBUTES, in logic, are the predicates of any subject, or what may be affirmed or denied of any thing. See the article PREDICATE.

ATTRIBUTES, in painting and sculpture, are symbols added to several figures, to intimate their particular office and character.

Thus the eagle is an attribute of Jupiter; a peacock, of Juno; a caduce, of Mercury; a club, of Hercules; and a palm, of Victory. For the attributes of the apostles. See the article APOSTLE.

ATTRITION, *attritio*, the rubbing or striking of bodies one against another, so as to throw off some of their superficial particles.

The grinding or polishing of bodies is performed by attrition, the effects of which are heat, light, fire, and electricity.

ATTRITION is also often used for the friction of such simple bodies as do not wear from rubbing against one another, but whose fluids are, by that motion, subjected to some particular determination; as the various sensations of hunger, pain and pleasure, are said to be occasioned by the attrition of the organs formed for such impressions.

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ATTRITION, among divines, signifies a sorrow or repentance for having offended God, arising chiefly from the apprehensions of punishment, the loss of heaven, and the torments of hell; and differs from contrition, in as much as this last is conceived to arise from a love to God, as an ingredient or chief motive to our sorrow and repentance. See the article CONTRITION.

AVA, a kingdom of India, beyond the Ganges, situated on the north-east part of the bay of Bengal; between the countries of Arracan on the north, and Pegu on the south.

AVALON, a town of Burgundy, in France, situated in $3^{\circ} 50'$ east longitude, and $47^{\circ} 25'$ north latitude.

AVANT, a french term, contracted by us into van. See the article VAN.

AVAST, in the sea language, a term requiring to stop, to hold, or to stay.

AVAUNCHERS, among hunters, the second branches of a deer's horn. See the article HEAD.

AUBANE, in the customs of France, a right vested in the king of being heir to a foreigner that dies within his dominions.

By this right, the French king claims the inheritance of all foreigners that die within his dominions, notwithstanding of any testament the deceased could make. An ambassador is not subject to the right of aubane; and the Switz, Savoyards, Scots, and Portuguese, are also exempted, being deemed natives and regnicoles.

AUBE, a river of France, which, arising in the south-east part of Champaign, runs north-west, and falls into the Seine below Plancy.

AUBIGNI, a town of France, in the province of Berry, and government of Orleans, situated in $2^{\circ} 20'$ east longitude, and $47^{\circ} 3'$ north latitude.

AUBIN, or St. AUBIN, a town of Brittany, in France; its west longitude being $1^{\circ} 30'$ and north latitude $48^{\circ} 15'$.

AUBIN, in horsemanship, a broken kind of gait, between an amble and a gallop, accounted a defect.

AUBURN, a market-town in Wiltshire, situated about twenty-four miles west of Reading, in $1^{\circ} 40'$ west longitude, and $51^{\circ} 30'$ north latitude.

AUBUSSON, a town of France, in the province of Marche, and government of Lyons: east longitude $2^{\circ} 15'$ and north latitude $45^{\circ} 55'$.

AUCTION, *auctio*, a kind of public sale,

G g

very

very much in use for household goods, books, plate, &c. By this method of sale, the highest bidder is always the buyer. This was originally a kind of sale among the antient Romans, performed by the public crier *sub hasta*, i. e. under a spear stuck up on that occasion, and by some magistrate, who made good the sale by delivery of the goods.

AUCTION by *inch of candle*. See the article **CANDLE**.

AUDE, a river of France, which, taking its rise in the Pyrenees, runs northwards by Alet and Carcassonne; and from thence turning eastward through Languedoc, falls into the Mediterranean, a little to the north-east of Narbonne.

AUDIENCE, in a general sense. See the article **HEARING**.

AUDIENCE, given to ambassadors, ceremonies observed in courts, at the admission of ambassadors, or public ministers, to a hearing.

In England, audience is given to ambassadors in the presence-chamber; to envoys and residents, in a gallery, closet, or in any place where the king happens to be. Upon being admitted, as is the custom of all courts, they make three bows, after which they cover and sit down; but not before the king is covered and sat down, and given them the sign to put on their hats.

When the king does not care to have them covered, and sit, he himself stands uncovered; which is taken as a slight.

At Constantinople, ministers usually have audience of the prime vizier.

AUDIENCE is also the name of a court of justice established in the West-Indies by the Spaniards, answering in effect to the parliaments of France.

These courts take in several provinces, called also audiences, from the names of the tribunal to which they belong.

AUDIENCE is also the name of an ecclesiastical court, held by the archbishop of Canterbury, wherein differences upon elections, consecrations, institutions, marriages, &c. are heard.

Chamber of AUDIENCE. See **CHAMBER**.

AUDIENDO & terminando, a writ, or more properly a commission, directed to certain persons, when any riotous assembly, insurrection, &c. is committed in any place, for appealing it, and punishing the offenders.

AUDIT, a regular hearing and examination of an account by some proper officers, appointed for that purpose.

AUDITA QUERELA, a writ that lies usually where one is bound in a statute merchant, statute staple, or recognizance, where a person has any thing to plead, but hath not a day in a court for pleading it; or where judgment is given for debt, and the defendant's body in execution; then if he have a release, or other sufficient cause to be discharged therefrom, but wants a day in court to plead the same, this writ may be granted him against the person that has recovered, or against his executors.

This writ is granted by the lord-chancellor, upon view of the exception suggested to the judges of either bench, willing them to grant summonses to the sheriffs of the county, where the creditor is, for his appearance, at a certain day, before them.

AUDITOR, in a general sense, a hearer, or one who listens and attends to any thing.

AUDITOR is also used for several officers, appointed to audit. See **AUDIT**.

It was antiently used for a judge. Notaries are also frequently called auditors.

AUDITOR, according to our law, is an officer of the king, or some other great person, who by examining yearly the accounts of the under-officers, makes up a general book, with the difference between their receipts and charges, and their allowances or allocations.

AUDITOR of the receipts is an officer of the exchequer who files the tellers bills, makes an entry of them, and gives the lord-treasurer a certificate of the money received the week before. He also makes debentures to every teller, before they receive any money, and takes their accounts. He keeps the black book of receipts, and the treasurer's key of the treasury, and sees every teller's money locked up in the new treasury.

AUDITORS of the revenue, or of the exchequer, officers who take the accounts of those who collect the revenues and taxes raised by parliament, and take the accounts of the sheriffs, escheators, collectors, tenants, and customers, and set them down in a book and perfect them.

AUDITORS of the prest and imprest are officers of the exchequer, who take and make up the accounts of Ireland, Berwick, the Mint, and of any money imprest to any man for the king's service.

AUDITORS collegiate, conventual, &c. officers formerly appointed in colleges, &c. to examine and pass their accounts.

AUDI-

AUDITORY, the adjective, something relating to the sense of hearing. See the article **HEARING**.

AUDITORY, or **AUDIENCE**, an assembly of people who attend to hear a person that speaks in public.

AUDITORY is also used for the bench where on a magistrate or judge hears causes.

AUDITORY was also the place in antient churches where the congregation stood to hear preaching.

Meatus AUDITORIUS, auditory passage, in anatomy. See **MEATUS AUDITORIUS**.

AUDITORY NERVES, in anatomy, a pair of nerves arising from the medulla oblongata, with two trunks, the one of which is called the *portio dura*, hard portion: the other *portio mollis*, or soft portion. See the article **NERVE**.

The *portio mollis* enters the foramen of the os petrosum, and thence through various little apertures, gets into the labyrinth of the ear, where it expands over all its parts, and constitutes the primary organ of hearing.

The *portio dura*, passing the aquæduct of Fallopius, turns back one or more branches from the anterior surface of the process of the petrosum, into the cavity of the cranium. It sends off also another branch internally, which with the branch from the fifth pair, serves for the construction of the chorda tympani. It also sends off a number of other smaller ramifications, which run to the muscles and other parts of the tympanum.

AVEIRO, a sea-port town of Portugal, situated near the ocean, at the mouth of the river Vouga, about twenty-eight miles south of Oporto, in 9° 8' west longitude, and 40° 32' north latitude.

AVELLANE, in heraldry, a cross, the quarters of which somewhat resemble a filbert-nut.

Sylvanus Morgan says, that it is the cross which ensigns the mound of authority, or the sovereign's globe.

AVE-MARIA, the angel Gabriel's salutation of the virgin Mary, when he brought her the tidings of the incarnation. It is become a prayer, or form of devotion, in the romish church. Their chaplets and rosaries are divided into so many ave-maries, and so many pater-nosters, to which the papists ascribe a wonderful efficacy.

Dr. Bingham observes, that among all the short prayers used by the primitive christians before their sermons, there is not the least mention of an ave-maria.

AVENA, the **OAT**, in botany. See the article **OAT**.

AVENOR, an officer belonging to the king's stables, who provides oats for the horses. He acts by warrant from the master of the horse. See the article **MASTER of the horse**.

AVENUE, in gardening, a walk planted on each side with trees, and leading to an house, garden-gate, wood, &c. and generally terminated by some distant object. The width of avenues should be twelve or fourteen feet greater than the whole breadth of the house; and for those that lead to woods or prospects, they ought not to be less than sixty feet in breadth. The trees proper for planting avenues, are the english elm, the lime tree, the horse-chestnut, the beech, and the ash.

The method of planting avenues with regular rows of trees, is with good reason now much disused; for nothing can be more absurd, than to have the sight contracted by two or more lines of trees, which shut out the view of the verdure and natural beauties of the adjacent grounds: but as some persons prefer avenues to the most beautiful disposition of lawns, gardeners have introduced a more magnificent way of planting them, which is, to place the trees in clumps or platoons, at about three hundred feet distance from each other, making the opening much wider than before.

AVENUE, in fortification, an opening or inlet into a fort, bastion, or the like. See the article **BASTION**.

AVERAGE, in law, an antient service which the tenant owed to his lord by horse or carriage.

AVERAGE, in commerce, signifies the accidents and misfortunes which happen to ships and their cargoes, from the time of their loading and sailing to their return and unloading; and is divided into three kinds. 1. The simple or particular average, which consists in the extraordinary expences incurred for the ship alone, or for the merchandizes alone. Such is the loss of anchors, masts, and rigging, occasioned by the common accidents at sea; the damages which happen to merchandize by storm, prize, shipwreck, wet or rotting; all which must be borne and paid by the thing which suffered the damage. 2. The large and common average, being those expences incurred, and damages sustained for the common good and security both of the

merchandizes and vessels consequently to be borne by the ship and cargo, and to be regulated upon the whole. Of this number are the goods or money given for the ransom of the ship and cargo, things thrown over-board for the safety of the ship, the expences of unlading for entering into a river or harbour, and the provisions and hire of the sailors, when the ship is put under an embargo. 3. The small averages, which are the expences for towing and piloting the ship out of, or into harbours, creeks, or rivers, one third of which must be charged to the ship, and two thirds to the cargo.

Average is more particularly used for a certain contribution, that merchants make proportionably towards their losses. It also signifies, a small duty which those merchants who send goods in another man's ship, pay to the master, for his care of them over and above the freight. Hence it is expressed in the bills of lading, paying so much freight for the said goods with primage and average accustomed.

AVERAGE, in agriculture, a term used for breaking up cornfields, eddish, or roughings.

AVERDUPOIS, or **AVERDUPOIS-WEIGHT**, a sort of weight used in England, the pound whereof is made up of sixteen ounces. See **WEIGHT**.

This is the weight for the larger and coarser commodities, such as groceries, cheese, wool, lead, &c. Bakers who live not in corporation-towns, are to make their bread by averdupois-weight, those in corporations, by troy weight. Apothecaries buy by averdupois-weight, but sell by troy. The proportion of a pound averdupois to a pound troy is as 17 to 14.

AVERIA, in a general sense, signifies any cattle, but is used in law for oxen, or horses of the plough.

AVERMENT, an offer of the defendant, to make good an exemption pleaded in abatement, or bar of the plaintiff's action.

General **AVERMENT** is the conclusion of every plea to the writ, or in bar of replications, or other pleadings, containing matter affirmative.

Particular **AVERMENT** is when the life of a tenant for life, or tenant in tail, is averred.

AVERNI, among antient naturalists, certain lakes, grottoes, and other places which infect the air with poisonous steams

or vapours, called also mephites.

AVER-PENNY, money paid in lieu of average. See the article **AVERAGE**.

AVERRHOA, a genus of the decandria pentagynia class of plants, whose flower consists of five lanceolated petals, the fruit is an apple of a turbinated and obtuse pentagonal figure, containing five cells, wherein are disposed angular seeds, separated by membranes.

AVERRUNCATION, in the antient agriculture, the same with pruning. See the article **PRUNING**.

AVERRUNCI, in the antient heathen theology, an order of deities among the Romans, whose peculiar office it was to avert danger and exile.

Apollo, and Hercules are supposed to be of this order.

AVERSA, a town of Naples, in the province of Lavoro, situated about seventeen miles south of Capua, in $14^{\circ} 45'$ east longitude, and $41^{\circ} 15'$ north latitude.

AVERSION, *aversio*, a distaste, a dislike, or abhorrence of something.

The term aversion, though chiefly used in a moral sense, is sometimes used in a natural one; in which last case, it is synonymous with antipathy. See the article **ANTIPATHY**.

AVERTI, a term used in the manege, to signify such a pace of a horse, as is regulated, and required in the lessons. *Pas ecouté, pas d'école*, among the French, signify the same thing.

AVES, some small islands, belonging to the Dutch on the coast of Terra Firma, in south America.

AVESNES, a little fortified town of Hainault, in the French Netherlands, situated about twenty-one miles south of Mons, in $3^{\circ} 40'$ east longitude, and $50^{\circ} 10'$ north latitude.

AUGES, in astronomy, the same with apsidēs. See the article **APSIDēs**.

AUGMENT, *augmentum*, in grammar, an accident of certain tenses of greek verbs, being either the prefixing of a syllable, or an increase of the quantity of the initial vowels.

Of these there are two kinds, the *augmentum temporale*, or of a letter, when a short vowel is changed into a long one, or a diphthong into another longer one; and *augmentum syllabicum*, or of a syllable, when a syllable is added at the beginning of the word.

AUGMENTS, in mathematics. See the articles **FLUXION** and **MOMENT**.

AUGMENTATION, *augmentatio*, in a general

ral sense, is the act of adding or joining something to another, with a design to render it more large and considerable.

AUGMENTATION is also used for the additament or thing added.

AUGMENTATION was also the name of a court erected 27 Hen. VIII. so called from the augmentation of the revenues of the crown, by the suppression of religious houses; and the office still remains, wherein there are many curious records, tho' the court has been dissolved long since.

AUGMENTATION, in heraldry, are additional charges to a coat-armour, frequently given as particular marks of honour, and generally borne, either on the escutcheon or a canton; as have all the baronets of England, who have borne the arms of the province of Ulster in Ireland.

AUGRE, or **AWGRE**, an instrument used by carpenters and joiners, to bore large round holes; and consisting of a wooden handle, and an iron blade, terminated at bottom with a steel bit.

AUGSBURG, a considerable city of Swabia in Germany; situated in 11° east longitude, and $48^{\circ} 20'$ north latitude.

It is an imperial city, and remarkable for being the place where the Lutherans presented their confession of faith to the emperor Charles V. at a diet of the empire held in 1550; from hence denominated the *augsbург confession*.

AUGUR, an officer among the Romans appointed to foretell future events, by the chattering and feeding of birds. There was a college or community of them consisting originally of three members, with respect to the three tribes, Luceres, Rhamneses, and Tatienses: afterwards the number was increased to nine, four of whom were patricians and five plebeians. They bore an augural staff or wand, as the ensign of their authority, and their dignity was so much respected, that they were never deposed, nor any substituted in their place, though they should be convicted of the most enormous crimes. See the article **AUGURY**.

AUGURAL, something belonging to augurs or augury; thus, we meet with augural instruments, augural books, &c.

AUGURY, in antiquity, a species of divination, or the art of foretelling future events, is distinguished into five sorts. 1. Augury from the heavens. 2. From birds. 3. From chickens. 4. From quadrupeds. 5. From portentous events. When an augury was taken, the augur

divided the heavens into four parts, and having sacrificed to the gods, he observed, with great attention, from what part the sign from heaven appeared. If, for instance, there happened a clap of thunder from the left, it was taken as a good omen. If a flock of birds came about a man, it was a favourable presage, but the flight of vultures was unlucky. If, when corn was sown before the sacred chickens, they crouded about it, and eat it greedily, it was looked upon as a favourable omen, but if they refused to eat and drink, it was an unlucky sign. See the article **DIVINATION**.

AUGUST, in chronology, the eighth month of our year, containing thirty-one days, and so called from the emperor Augustus.

AUGUSTA, or **AUSTA**, an island in the gulph of Venice, on the coast of Dalmatia; situated in $17^{\circ} 40'$ east longitude, and $42^{\circ} 35'$ north latitude.

AUGUSTALES, in roman antiquity, an epithet given to the flamini or priests appointed to sacrifice to Augustus, after his deification, and also to the ludi or games celebrated in honour of the same prince on the fourth of the ides of October.

AUGUSTALIA, a festival instituted by the Romans, in honour of Augustus Cæsar, on his return to Rome after having settled peace in Sicily, Greece, Syria, Asia, and Parthia; on which occasion they likewise built an altar to him, inscribed *Fortunæ reduci*.

AUGUSTALIS PRÆFECTUS, a title peculiar to a roman magistrate who governed Egypt, with a power much like that of a proconsul in other provinces.

AUGUSTAN, in a general sense, denotes, something relating to the emperor Augustus: thus, we say, *Augustan age*, *Augustan era*, &c.

AUGUSTIN, or **St. AUGUSTIN**, the capital town of Spanish Florida, in north America; situated near the frontiers of Georgia, in 81° west longitude, and 30° north latitude.

Cape-AUGUSTIN, a cape of Brazil, in south America; lying in 35° west longitude, and $8^{\circ} 30'$ south latitude.

AUGUSTINS, a religious order in the church of Rome, who follow the rule of St. Augustin, prescribed them by Pope Alexander IV. Among other things, this rule enjoins to have all things in common, to receive nothing without the leave of the superior; and several other precepts relating to charity, modesty, and

and chastity. There are likewise nuns of this order.

The augustins are clothed in black, and at Paris are known under the name of the religious of St. Genevieve, that abbey being the chief of the order.

AVIARY, a place set apart for feeding and propagating birds. It should be so large, as to give the birds some freedom of flight, and turfed, to avoid the appearance of foulness on the floor.

AVICENNIA, in botany, a genus of plants of the *tetrandria monogynia* class of Linnæus, the flower of which consists of a single petal, divided into four ovato-acuminate segments, the fruit is a coriaceous capsule of one cell, containing a single seed of an elliptic figure.

AVIGNON, a large city of Provence, in France; situated on the east side of the river Rhone, about twenty miles south of Orange, in $4^{\circ} 40'$ east longitude, and $43^{\circ} 50'$ north latitude.

Avignon is an archbishop's see, and with the whole district of Venaissine, subject to the pope.

AVILA, a beautiful city of old Castile in Spain, situated fifty miles north-west of Madrid, in $5^{\circ} 20'$ west longitude, and $40^{\circ} 50'$ north latitude.

AVILES, a sea-port town of Asturia, in Spain, in $6^{\circ} 40'$ west longitude, and $43^{\circ} 30'$ north latitude.

AVIS, BIRD, in zoology. See the articles **BIRD** and **ORNITHOLOGY**.

AUKLAND, a market-town on the river Wear, in the bishopric of Durham; situated about twelve miles south-west of the city of Durham, in $1^{\circ} 25'$ west longitude, and $54^{\circ} 40'$ north latitude.

AUL, or AWL. See the article **AWL**.

AULA, is used for a court-haron, by Spelman; by some old ecclesiastical writers, for the nave of a church, and sometimes for a court-yard.

AULCESTER, a market-town of Warwickshire; situated about fourteen miles south-west of Warwick, in $1^{\circ} 50'$ west longitude, and $52^{\circ} 20'$ north latitude.

AULIC, an epithet given to certain officers of the empire, who compose a court, which decides, without appeal, in all processes entered in it. Thus we say, aulic council, aulic chamber, aulic counsellor. The aulic council is composed of a president, who is a catholic; of a vice-chancellor, presented by the archbishop of Mentz; and of eighteen counsellors, nine of whom are protestants, and nine catholics. They are divided into a bench of

lawyers, and always follow the emperor's court, for which reason they are called *justitium imperatoris*, the emperor's justice, and aulic council. The aulic court ceases at the death of the emperor, whereas the imperial chamber of Spire is perpetual, representing not only the deceased emperor, but the whole germanic body, which is reputed never to die.

AULIC, in the sorbonne and foreign universities, is an act which a young divine maintains upon being admitted a doctor in divinity.

It begins by an harangue of the chancellor, addressed to the young doctor, after which he receives the cap, and presides at the aulic, or disputation.

AULNEGER, or ALNAGER. See the article **ALNAGER**.

AULOS, αὔλος, a grecian long-measure, the same with stadium. See **STADIUM**.

AUMONE, in law, signifies a tenure, where lands are given in alms, to some church or religious house. See the article **FRANK-ALMOIGN**.

AUNCEL-WEIGHT, an antient kind of balance, now out of use, being prohibited by several statutes, on account of the many deceits practised by it. It consisted of scales hanging on hooks, fastened at each end of a beam, which a man lifted up on his hand. In many parts of England, auncel weight signifies meat sold by the hand, without scales.

AUNCESTREL HOMAGE. See the article **HOMAGE**.

AUNIS, a maritime province of France, on the western shore of the bay of Biscay; having the province of Poitou on the north, and Saintoigne on the south.

AVOCATORIA, a mandate of the emperor of Germany, addressed to some prince, in order to stop his unlawful proceedings in any cause appealed to him.

AVOIDANCE, in the canon law, is when a benefice becomes void of an incumbent, which happens either in fact, as by the death of the parson, or in law, as by cession, deprivation, resignation, &c. In the first of these cases, the patron must take notice of the avoidance, at his peril; but in avoidance by law, the ordinary is obliged to give notice to the patron, in order to prevent a lapse.

AVOIRDUPOIS, or AVERDUPOIS. See the article **AVERDUPOIS**.

AVON, a river of England, which, taking its rise in Wiltshire, runs by Bath, where it becomes navigable, and continues its course

course towards Bristol, below which city it falls into the Severn.

AVON is also a river, which, arising in Leicestershire, runs south-west by Warwick and Evesham, and falls into the Severn at Tewksbury in Gloucestershire.

AVOSETTA, in ornithology, a species of recurvirostra, being an extreme singular bird, variegated with black and white, and about the size of a common lapwing. See the article **RECURVIROSTRA**.

AVOWEE, one who has a right to present to a benefice. See **ADVOWSON**.

He is thus called in contradistinction to those who only have the lands to which the advowson belongs for a term of years, or by virtue of intrusion or disseisin. See the articles **INTRUSION**, &c.

AVOWRY, in law, is where a person distrained sues out a replevin, for then the distrainer must avow, and justify his plea, which is called his avowry. See the article **REPLEVIN**.

The avowry must contain sufficient matter for judgment to have return, but so much certainty is not required therein, as in a declaration; and if made for rent, though it appears that part of that rent is not due, yet the avowry is good for the rest.

AURA, among physiologists, signifies a vapour or exhalation, such as those which arise from mephitical caves. See the articles **VAPOUR**, and **EXHALATION**.

AURACH, a town of Swabia, in Germany, situated about fifteen miles east of Tübingen; in $9^{\circ} 20'$ east longitude, and $48^{\circ} 25'$ north latitude.

AVRANCHES, a large, strong and well situated city of France in the lower Normandy; situated in $1^{\circ} 16'$ west longitude, and $48^{\circ} 41'$ north latitude.

AURANTIUM, the **ORANGE-TREE**, in botany, makes a distinct genus, according to Tournefort, but is comprehended under citrus, by Linnæus. See the articles **ORANGE** and **CITRUS**.

AURAY, a sea-port town of Brittany, in France; situated about eighteen miles south-east of Port-Lewis, in $2^{\circ} 45'$ west longitude, and $47^{\circ} 40'$ north latitude.

AUREA ALEXANDRINA, in pharmacy, an electuary compounded of above seventy ingredients, one of which was pure gold; and recommended by its inventor Alexander, a physician, as an antidote against the colic and apoplexy.

AURENGBAD, a large city in the province of Vishnappour, in India, on this side

the Ganges, east longitude $75^{\circ} 30'$, and north latitude $19^{\circ} 15'$.

AUREOLA, in its original signification, denotes a jewel, which is proposed as a reward of victory in some public dispute. Hence, the roman schoolmen applied it to the reward bestowed on martyrs, virgins, and doctors, on account of their works of supererogation; and painters use it to signify the crown of glory, with which they adorn the heads of saints, confessors, &c.

AURES MARINÆ, **EAR-SHELLS**, in natural history, a name given to different species of the haliotis. This is an univalve shell-fish of a flattened shape, somewhat resembling the human ear; its mouth is the widest of all shells, except the limpet. See the article **HALIOTIS**, and plate **XXIV. fig. 3.**

AUREUS, a roman gold-coin, equal in value to twenty-five denarii.

According to Ainsworth, the aureus of the higher empire weighed near five penny-weight; and in the lower empire, little more than half that weight. We learn from Suetonius, that it was customary to give aurei to the victors in the chariot races.

AURICH, a town of Westphalia, in Germany; situated about twelve miles north east of Embden, in $6^{\circ} 50'$ east longitude, and $53^{\circ} 40'$ north latitude.

AURICALCUM, or **ORICALCUM**. See the article **ORICALCUM**.

AURICLE, in anatomy, that part of the ear which is prominent from the head, called by many authors *auris externa*. See the article **EAR**.

AURICLES of the heart. These are a kind of appendages of the heart at its base, and are distinguished by the names of the right and left. The right auricle is much larger than the left, and this is placed in the hinder, that in the anterior part. They are intended as diverticula for the blood, during the systole. Their substance is muscular, being composed of strong fibres, and their motion is not synchronous but achronous with that of the heart. See the article **HEART**.

AURICULÆ primus & secundus musculus, two muscles of the ear, otherwise called superior and retrahens. See the articles **SUPERIOR** and **RETRAHENS**.

AURICULAR, whatever belongs or relates to the ear. Thus we say, auricular witness, auricular confession, &c. as being done secretly, and as it were in the ear.

AURI-

AURICULAR MEDICINES, such as are used in the cure of distempers in the ear. See the article **EAR**.

AURIGA, the WAGGONER, in astronomy, a constellation of the northern hemisphere, consisting of twenty-three stars, according to Tycho, 40 according to Hevelius, and 63 in the britannic catalogue.

AURILLAC, a neat and well-built city of France, in the upper Auvergne, noted for its trade in bone-lace: it is situated in $3^{\circ} 31'$ east long. and $54^{\circ} 44'$ north lat.

AURIPIGMENTUM, *orpiment*, in natural-history. See the article **ORPIMENT**.

AURIS, the **EAR**, in anatomy. See **EAR**.

AURIS ELEVATOR, **EXTERNUS**, **OBLIQUUS**, **TINNITUS**, &c. See the article **ELEVATOR**, &c.

AURISCALPIUM, an instrument to clean the ears, and serving also for other operations in disorders of that part.

AURORA, the morning twilight, or that faint light which begins to appear in the morning, when the sun is within eighteen degrees of the horizon. See **TWILIGHT**.

AURORA BOREALIS is an extraordinary meteor, shewing itself in the night-time, in the northern parts of the heavens.

The most general phenomena of it are these: 1. In the northern parts of the horizon, there is an apparent, though not real cloud extended sometimes farther towards the west than to the east, and sometimes farther towards the east than west, taking up nearly a quarter of the horizon. 2. The upper edge of this cloud is generally terminated with one or more lucid arches, and sometimes by a long bright streak of light, lying parallel to the horizon. 3. Out of these arches proceed streams of light generally perpendicular to the horizon, but sometimes a little inclined to it, and very much resembling the tail of comets. 4. The upper ends of the streams appear and vanish incessantly, which causes such a seeming trembling in the air; that you would think the upper part of the heavens to be as it were in convulsions. 5. When all the streamings are over, the aurora commonly degenerates into a bright twilight in the north, and then gradually dies away.

The solutions of the phenomena of the aurora borealis are various. Dr. Halley has recourse to the magnetic effluvia which he supposes enters the earth near the south pole, and pervading its pores, pass out again at the same distance from the northern; and thinks, that by the

concourse of several causes, they may be capable of producing a small degree of light, either from the greater density of the matter, or from the greater velocity of its motion, after the same manner as we see the effluvia of electric bodies emit light in the dark. Monsieur de Marain endeavours to prove that it is owing to the zodiacal light, or the atmosphere of the sun, which mixing with our atmosphere, and being of an heterogeneous nature, produces the several appearances of the aurora borealis. Mr. Maier, of the academy at Petersburg, accounts for it from exhalations fermenting and taking fire in the atmosphere; and Mr. Rowning gives a very ingenious and natural solution of all the above phenomena, from such effluvia as are continually exhaled from the surface and bowels of the earth.

The aurora borealis is a very common phenomenon in countries near the pole; but there are not many upon record, as having appeared in England before that of March the 6th, 1715. Since that time, however, they have been and still continue very frequent.

AURUM, **GOLD**, in natural history. See the article **GOLD**.

The latin term *aurum* is chiefly used to denote certain chemical preparations, whereof gold is the principal ingredient. Such are, 1. *Aurum fulminans*, being a solution of gold in aqua regia, and precipitated with salt of tartar. This gives a much smarter and louder report than the common pulvis fulminans. 2. *Aurum musivum* or *mosaicum*, which is made of tin, flowers of sulphur, crude sal armoniac, and purified quicksilver, by mixing and subliming the whole in a matrafs. The aurum musivum will be found under the sublimed part, in the bottom of the matrafs, and may be prescribed in a dose from four grains to a scruple, to kill worms in children. 3. *Aurum potable*, potable gold. This is a composition made of gold, by separating its salt and sulphur, and then dissolving it in a liquor, which takes the name of tincture of gold. It is supposed to possess the virtues of a cordial and sudorific, but these can never be ascribed to the gold, for it remains still gold, and may be separated in its own proper form by mere evaporation. 4. *Aurum philosophorum*, which the alchemists hold still more simple than gold, as consisting of mercury perfectly cleared from all sulphur; but whether

whether there be any such thing in nature, is a question not yet decided.

AUSPICIUM, AUSPICY, the same with augury. See the article **AUGURY**.

Some authors indeed have supposed, that auspicy regarded only the flight of birds, and therefore distinguished it from augury, which observed the noise, chirping, and chattering of birds; but this is a distinction not always observed.

AUSTERE, rough, astringent. Thus an austere taste is such a one as constringes the mouth and tongue with some austerity; as the taste of unripe fruit.

Things of an austere taste are supposed by some, from their glutinous quality, to generate the stone.

AUSTERITY, among moral writers, implies severity and rigour. Thus we say, austerity of manners.

Austerity of bodies, according to the Cartesians, consists in having obtuse angular particles, like a blunt saw.

AUSTRAL, australis, something relating to the south: thus the six signs on the south side of the equinoctial are called austral signs.

AUSTRAL FISH, australis piscis, a small constellation of the southern hemisphere, invisible to us.

AUSTRIA, a circle of Germany, comprehending the arch-duchy of Austria, also Styria, Carinthia, Carniola, Tyrol, Trent, and Brixen.

It is bounded by Bohemia and Moravia on the north; by Hungary, Sclavonia, and Croatia on the east; by the dominions of Venice on the south, and by Bavaria on the west.

AUSTRIAN NETHERLANDS. See the article **NETHERLANDS**.

AUTER FOIS ACQUIT, in law, a plea made by a criminal that he has been already acquitted of the same crime, with which he is charged. There are likewise pleas of auter fois convict and attain, that he has been before convicted of the same felony.

AUTHENTIC, something of acknowledged and received authority. In law it signifies something clothed in all its formalities, and attested by persons to whom credit has been regularly given. Thus, we say, authentic papers, authentic instruments. In music, authentic is a term applied to four of the church modes or tones, which rise a fourth above their dominants, which are always a fifth above their finals; in this distinguished from the plegal modes, which fall a

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fourth below their finals. Thus when an octave is divided arithmetically according to the numbers 2, 3, 4, that is, when the fifth is flat, and the fourth sharp, the mode or tone is called authentic, in contradistinction to the plegal tone, where the octave is divided harmonically, by the numbers 3, 4, 6, which makes the fourth a flat, and the fifth a sharp. See **MODE, TONE, &c.**

AUTHENTICATING, the making a thing authentic. See the preceding article.

AUTHOR properly signifies one who created or produced any thing. Thus God, by way of eminence, is called the author of nature, the author of the universe.

The word author is sometimes employed in the same sense as inventor. As, Othe de Guerick is reported to be the author of the barometer.

AUTHOR, in matters of literature, a person who has composed some book or writing.

Authors may be distinguished into sacred and profane, antient and modern, known and anonymous, Greek, Latin, English, French, &c. and with regard to the subjects they treat, into divines, philosophers, orators, historians, poets, grammarians, physiologists, &c.

An original author is he, who, in treating any subject, does not follow any other person, or imitate any model, either in the matter, or method of his composition. For instance, M. de Fontenelle is an original author in his *Plurality of Worlds*, but not in his *Dialogues of the Dead*.

AUTHORITY, in a general sense, signifies a right to command, and make one's self obeyed. In which sense, we say, the royal authority, the episcopal authority, the authority of a father, &c.

Authority denotes also the testimony of an author; some apophthegm, or sentence of an eminent person, quoted in a discourse by way of proof.

Authority, in law, signifies a power given by word, or writing, to a second person to act something, and may be by writ, warrant, commission, letter of attorney, &c. and sometimes by law. An authority given to another, to do what a person himself cannot do is void; and it must be for doing a thing that is lawful, otherwise it will be no good authority.

Authority is represented, in painting, like a grave matron sitting in a chair of

Hh

flat,

state, richly clothed in a garment embroidered with gold, holding in her right hand a sword, and in her left a sceptre. By her side is a double trophy of books and arms.

AUTO DE FE, ACT OF FAITH. See the article **ACT**.

AUTOCEPHALOUS, *αυτοκεφαλοι*, in church-history, denotes archbishops who were independent of any patriarch.

AUTOCHTHONES, in antiquity, an appellation importing the same with aborigines. See the article **ABORIGINES**.

AUTOGRAPH, *αυτογραφον*, denotes a person's hand-writing, or the original manuscript of any book, &c.

AUTOMATUM, or **AUTOMATON**, *αυτοματον*, an instrument, or rather machine; which, by means of springs, weights, &c. seems to move itself as a watch, clock, &c. Such also were Archytus's flying dove, Regiomontanus's wooden-eagle, &c.

AUTUMN, the third season of the year, when the harvest and fruits are gathered in. Hence, in the language of the alchemists, it signifies the time when the philosophers stone is brought to perfection.

Autumn is represented, in painting, by a man at perfect age, clothed like the vernal, and likewise girded with a starry girdle; holding in one hand a pair of scales equally poised, with a globe in each; in the other, a bunch of divers fruits and grapes. His age denotes the perfection of this season, and the balance, that sign of the zodiac, which the sun enters when our autumn begins.

AUTUMNAL, something relating to autumn. Thus,

AUTUMNAL POINT is that point of the equinox from which the sun begins to descend towards the south pole.

AUTUMNAL SIGNS, in astronomy, are the signs libra, scorpio, and sagittarius, thro' which the sun passes during the autumn. See the article **ZODIAC**, &c.

AUTUMNAL EQUINOX, the time when the sun enters the autumnal point. See the article **EQUINOX**.

AUTUN, a city of Burgundy in France; situated on the river Arroux, in $4^{\circ} 15'$ east longitude, and $46^{\circ} 50'$ north latit.

AUVERNE, a territory of the Lyonois in France; lying between the Bourbonnois on the north, and the Cevennes on the south.

AUX, or **AUGH**, in geography, the capital city of Gascony in France. It is one of the richest archbishop's sees in France,

though but a small town, situated in $20'$ east longitude, and $43^{\circ} 40'$ north latitude.

AUXERRE, a city of Burgundy in France, situated on the river Yonne, in $3^{\circ} 35'$ east longit. and $47^{\circ} 40'$ north latitude.

AUXILIARY, *auxiliaris*, whatever is aiding or helping to another.

AUXILIARY VERBS, in grammar, are such as help to form or conjugate others; that is, are prefixed to them, to form or denote the moods or tenses thereof. As *to have* and *to be*, in the English; *estre* & *avoir* in the French; *ho* & *sono* in the Italian, &c.

In the english language, the auxiliary verb *am*, supplies the want of passive verbs. See the article **PASSIVE**.

AUXILIUM, in law, the same with aid. See the article **AID**.

AUXILIUM CURIE, in law, a precept or order of court, to cite, or convene one party at the suit of another.

AUXILIUM ad filium militem faciendum, vel filiam maritandam, a precept, or writ directed to the sheriff of every county where the king, or other lords had any tenants, to levy of them reasonable aid, towards the knighting his eldest son, or the marriage of his eldest daughter. See the article **AID**.

AUXONE, a small city of Burgundy, in France, situated on the river Soane, about seven miles west of Dole, in $5^{\circ} 22'$ east longitude, and $47^{\circ} 15'$ north latitude.

AWARD, in law, the judgment of an arbitrator, or of one who is not appointed by the law a judge, but chosen by the parties themselves for terminating their difference. See the article **ARBITRATOR**.

AWK, in ornithology, the same with the alce or razor-bill. See **RAZOR-BILL**.

AWL, or **AUL**, among shoe-makers, an instrument wherewith holes are bored thro' the leather, to facilitate the stitching, or sewing the same. The blade of the awl is usually a little flat and bended, and the point ground to an acute angle.

AWME, or **AUME**, a dutch liquid measure, containing eight steckans, or twenty verges or verteels, equal to the tierce in England, or to one-sixth of a ton of France.

AWN, *arista*, in botany. See **ARISTA**.

AWNING, in the sea-language, is the hanging a sail, tarpauling, or the like, over any part of the ship, to keep off the sun, rain, or wind.

AX, *securis*, among carpenters, an instrument wherewith to hew wood.

This implement differs from the joiners hatchet, as being deeper and heavier.

AX, **AXLE**, or **AXIS**. See **AXIS**.

AXBRIDGE, a market town of Somersetshire, situated about eight miles north-west of Wells, in 3° west longitude, and $51^{\circ} 30'$ north latitude.

AXEL, a small fortified town of dutch Flanders, situated about twenty miles west of Antwerp, in $3^{\circ} 40'$ east longitude, and $51^{\circ} 20'$ north latitude.

AXILLA, in anatomy, the arm-pit, or the cavity under the upper part of the arm.

AXILLA, in botany, the space comprehended betwixt the stems of plants and their leaves.

AXILLARY, *axillaris*, something belonging to, or laying near the axilla. Thus,

AXILLARY ARTERY is that part of the subclavian branches of the ascending trunk of the aorta, which passeth under the arm-pits. See the article **ARTERY**.

AXILLARY GLANDS are situated under the arm-pits, enveloped in fat, and lie close by the axillary vessels.

AXILLARY VEIN, one of the subclavian veins which passes under the arm-pit, dividing itself into several branches, which are spread over the arm. See **VEIN**.

AXIM, a town on the gold coast of Guinea, where the Dutch have a fort and factory called St. Anthony: west longitude, 4° , and north latitude 5° .

AXIOM, in philosophy, is such a plain, self-evident, and received notion, that it cannot be made more plain and evident by demonstration; because it is itself better known than any thing that can be brought to prove it: as, that nothing can act where it is not; that a thing cannot be, and not be, at the same time; that the whole is greater than a part thereof; and that from nothing, nothing can arise. By axioms, called also maxims, are understood all common notions of the mind, whose evidence is so clear and forcible, that a man cannot deny them, without renouncing common sense and natural reason.

The rule whereby to know an axiom, is this: whatever proposition expresses the immediate clear comparison of two ideas, without the help of a third, is an axiom. But if the truth does not appear from the immediate comparison of two ideas, it is no axiom.

These sort of propositions, under the name of axioms, have, on account of their being self-evident, passed not only for principles of science, but have been

supposed innate, and thought to be the foundation of all our other knowledge; though, in truth, they are no more than identic propositions: for to say that all right angles are equal to each other, is no more than saying, that all right angles are right angles, such equality being implied in the very definition. All consideration of these maxims, therefore, can add nothing to the evidence or certainty of our knowledge of them: and how little they influence the rest of our knowledge, how far they are from being the foundation of it, as well as of the truths first known to the mind, Mr. Locke, and some others, have undeniably proved. According to Bacon, it is impossible that axioms raised by argumentation should be useful in discovering new works; because the subtilty of nature far exceeds the subtilty of arguments: but axioms, duly and methodically drawn from particulars, will again easily point out new particulars, and so render the sciences active.

The axioms in use being derived from slender experience, and a few obvious particulars, are generally applied in a corresponding manner. No wonder, therefore, they lead us to few particulars; and if any instance, unobserved before, happen to turn up, the axiom is preserved by some trifling distinction, where it ought rather to be corrected.

AXIOM is also an established principle in some art or science.

Thus it is an established axiom in physics, that nature does nothing in vain; so it is in geometry, that if to equal things you add equals, the sums will be equal. It is an axiom in optics, that the angle of incidence is equal to the angle of reflection, &c. In which sense too, the general laws of motion are called axioms: whence it may be observed, that these particular axioms are but deductions from certain hypotheses.

AXIS, in geometry, the straight line in a plane figure, about which it revolves, to produce or generate a solid: thus, if a semi-circle be moved round its diameter at rest, it will generate a sphere, the axis of which is that diameter.

AXIS, in astronomy. 1. Axis of the world, an imaginary right line conceived to pass through the center of the earth from one pole to the other, about which the sphere of the world in the ptolemaic system revolves in its diurnal rotation. 2. The axis of a planet, is that line drawn

through the center about which the planet revolves. The sun, together with all planets, except Mercury and Saturn, are known by observation to move about their respective axes. The axis of the earth, during its revolution round the sun, remains always parallel to itself, and is inclined to the plane of the ecliptic, making with it an angle of $66\frac{1}{2}$ degrees. See the articles PARALLELISM, INCLINATION, &c.

3. The axis of the equator, horizon, ecliptic, zodiac, &c. are right lines drawn through the centers of those circles perpendicular to their planes. See the articles EQUATOR, HORIZON, &c.

AXIS, in conic-sections, a right line dividing the section into two equal parts, and cutting all its ordinates at right angles. Thus, if AP (plate XXIV. fig. 4. N^o. 1.) be drawn so as to cut the ordinate MN at right angles, and divide the section into two equal parts, then is the line AP the axis of the section. The transverse, first, or principal axis of an ellipsis or hyperbola, is the axis AP, which in the ellipsis (*ibid.* N^o. 2.) is the longest, and in the hyperbola (*ibid.* N^o. 3.) cuts the curves in the points A and P. The conjugate, or second axis of an ellipsis, is the line EF (*ibid.* N^o. 2.) drawn through the center C, parallel to the ordinate MN, and perpendicular to the transverse axis AP, being the shorter of the two, and terminated by the curve. The conjugate axis of an hyperbola is the right line EF (*ibid.* N^o. 3. drawn thro' the center C, parallel to the ordinates MN, MN, and perpendicular to the transverse axis AP. This axis, tho' more than infinite, is of a determinate length, and may be found by this proportion. As $\overline{AM} \times \overline{PM} : AP^2 :: MN^2 : EF^2$.

The axis of the parabola is of an indeterminate length. This axis of the ellipsis is determinate. In the ellipsis and hyperbola, there are two axes, and no more; and, in the parabola, only one.

AXIS, in mechanics. The axis of a balance is that line about which it moves, or rather turns about. Axis of oscillation is a right line parallel to the horizon, passing through the center about which a pendulum vibrates. See the articles BALANCE and PENDULUM.

AXIS IN PERITROCHIO, one of the five mechanical powers, consisting of a peritrochium or wheel concentric with the base of a cylinder, and moveable together with it about its axis. The power

is applied at the circumference of the wheel, and the weight is raised by a rope that is gathered up on the axis while the machine turns round. The power may be conceived as applied at the extremity of the arm of a lever, equal to the radius of the wheel; and the weight as applied at the extremity of a lever, equal to the radius of the axis; only those arms do not meet at one center of motion, as in the lever, but in place of this center, we have an axis of motion, *viz.* the axis of the whole machine. See LEVER.

But as this can produce no difference, it follows, that the power and weight are in *equilibrio*, when they are to each other inversely as the distances of their directions from the axis of the engine; or when the power is to the weight as the radius of the roller to the radius of the wheel; the power being supposed to act in a perpendicular to this radius. But if the power act obliquely to the radius, substitute a perpendicular from the axis on the direction of the power, in the place of the radius, thus. If ABDE (plate XXIV. fig. 5.) represent the cylindric roller, HPN the wheel, LM the axis or right line, upon which the whole engine turns, Q the point of the surface of the roller, where the weight W is applied, P the point where the power is applied, KQ the radius of the roller, CP the radius of the wheel; then if the power P act with a direction perpendicular to CP, the power and weight will sustain each other, when P is to W as KQ to CP or CH: but if the power act in any other direction PR, let CR be perpendicular from C the center of the wheel on that direction; then P and W will sustain each other, when P is to W as KQ to CR; because, in this case, a power P has the same effect, as if it was applied to the point R of its direction, acting in a right line perpendicular to CR.

The use of this machine is to raise weights to a greater height than the lever can do; because the wheel is capable of being turned several times round, which the lever is not; and also to communicate motion from one part of a machine to another. Accordingly, there are few compound machines without it.

AXIS, in optics, is that ray, among all others that are sent to the eye, which falls perpendicularly upon it, and which consequently passes through the center of the eye.

Common

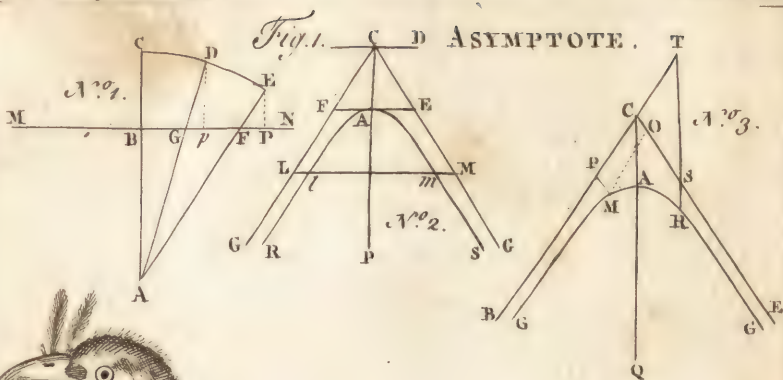


Fig. 3. AURES MARINÆ, EAR-SHELLS.

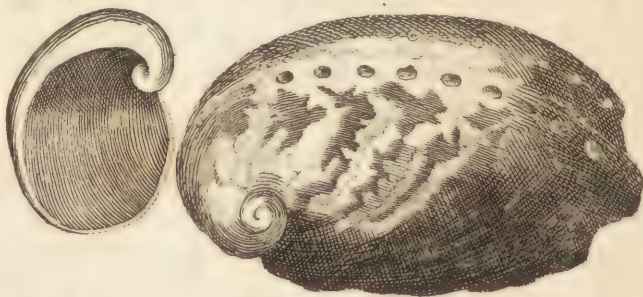


Fig. 4. AXIS.

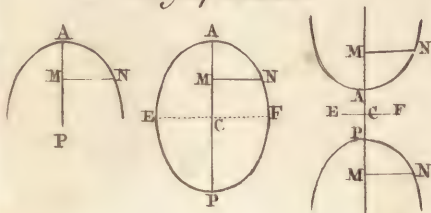
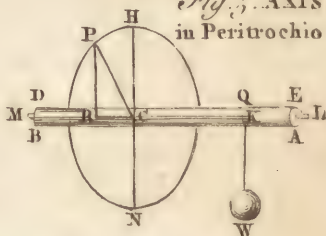


Fig. 5. AXIS, in Peritrochio.





Common or mean axis, is a right line drawn from the point of concourse of the two optic nerves, thro' the middle of the right line, which joins the extremity of the same optic nerves.

Axis of a glass or lens, is a right line joining the middle points of the two opposite surfaces of the glass.

Axis of incidence, in dioptrics, is a right line perpendicular in the point of incidence, to the refracting superficies, drawn in the same medium that the ray of incidence comes from.

Axis of refraction is a right line drawn thro' the refracting medium, from the point of refraction, perpendicular to the refracting superficies.

Axis, in architecture. **Spiral axis**, is the axis of a twisted column drawn spirally, in order to trace the circumvolutions without. See the article **COLUMN**.

Axis of the ionic capital, is a line passing perpendicularly through the middle of the eye of the volute. See the articles **CAPITAL** and **VOLUTE**.

Axis of a vessel is an imaginary right line, passing through the middle of it perpendicularly to its base, and equally distant from its sides.

Axis, in anatomy, the second vertebra of the neck, so called from the head's turning on it like an axis.

AXLE, or **AXLE-TEE**, the same with axis. See the article **AXIS**.

AXMINSTER, a market town of Devonshire, situated about twenty-two miles east of Exeter, in $3^{\circ} 15'$ west longitude, and $50^{\circ} 40'$ north latitude.

AXUMA, a city of Ethiopia, in Africa, situated in 38° east longitude, and 15° north latitude.

AXUNGIA, in a general sense, denotes old lard, or the driest and hardest of any fat in the bodies of animals: but, more properly, it signifies only hog's lard.

Physicians make use of the axungia of the goose, the dog, the viper, and some others, especially that of man, which is held by some to be of extraordinary service in the drawing and ripening of tumours.

AXUNGIA VITRI, sandiver, or salt of glass, a kind of salt which separates from the glass while it is in fusion. It is of an acrimonious and biting taste: the farriers use it for clearing the eyes of horses: it is also made use of for cleansing the teeth; and it is sometimes applied to running ulcers, the herpes, or the itch, by way of desiccative.

AXYRIS, in botany, a genus of the monœcia triandria class of plants, in the male flowers of which the calyx is a perianthium composed of four patent, obtuse leaves, divided into three segments: there is no corolla: In the female flowers the calyx is composed of five obtuse, concave, connivent, and permanent, leaves, with the two exterior ones shorter than the rest: there is no corolla; nor is there any pericarpium; the seed is single, oblong, compressed, obtuse, and contained in the cup.

AYAMONTE, a sea-port town of Andalusia in Spain, situated near the mouth of the river Guadiana, in $8^{\circ} 5'$ west longitude, and 37° north latitude.

AYEL, in law, a writ which lies where the grandfather was seized in his demesne the day he died, and a stranger enters the same day and dispossesses the heir.

AYMOUTH, or **EYMOUTH**. See the article **EYMOUTH**.

AYRY, or **AERY** of hawks, a nest or company of hawks so called from the old french word *aïre*, which signified the same. See the article **HAWK**.

AZALEA, in botany, a genus of the pentandria monogynia class of plants, the flower of which consists of a single petal, divided at the summit into five segments: the fruit is a roundish capsule, formed of five valves, and containing as many cells: the seeds are numerous and roundish.

AZAZEL, the scape-goat, in jewish antiquity. See the article **SCAPE-GOAT**.

AZIMUTH, in astronomy, an arch of the horizon, intercepted between the meridian of the place and the azimuth, or vertical circle passing thro' the center of the object, which is equal to the angle of the zenith formed by the meridian and vertical circle: or it is found by this proportion, As the radius to the tangent of the latitude of the place, so is the tangent of the sun's or star's altitude, for instance, to the co-sine of the azimuth from the south, at the time of the equinox. To find the azimuth by the globe, see the article **GLOBE**.

Magnetical AZIMUTH, an arch of the horizon, intercepted between the azimuth, or vertical circle passing through the center of any heavenly body, and the magnetical meridian.

This is found by observing the object with an azimuth compass.

AZIMUTH-COMPASS, an instrument adapted to find, in a more accurate manner than by the common sea-compass, the sun

sun or star's magnetical amplitude, or azimuth. See a description of this compass under the article *Azimuth-Compass*.

AZIMUTH-DIAL, one whose style or gnomon is at right angles to the plane of the horizon.

AZIMUTH-CIRCLES, called azimuths, or vertical circles, are great circles of the sphere, intersecting each other in the zenith and nadir, and cutting the horizon at right angles in all the points thereof. The horizon being divided into 360° , they usually conceive 360 azimuths.

These azimuths are represented by the rhumbs on common sea-charts, and on the globe they are represented by the quadrant of altitude when screwed in the zenith. On these azimuths is reckoned the height of the stars, and of the sun when not in the meridian.

AZOGA-SHIPS, are those spanish ships commonly called the quick-silver ships, from their carrying quicksilver to the spanish West-Indies, in order to extract the silver out of the mines of Mexico and Peru. These ships, strictly speaking, are not to carry any goods unless for the king of Spain's account.

AZONI, *αζωνι*, in ancient mythology, a name applied by the Greeks to such of the gods as were deities at large, not appropriated to the worship of any particular town or country, but acknowledged in general by all countries, and worshipped by every nation. These the Latins called *dii communes*. Of this sort were the Sun, Mars, Luna, &c.

AZORES, islands in the atlantic ocean, between 25° and 33° west longitude, and between 36° and 40° north latitude.

They belong to the Portuguese, and are sometimes called the western isles, as lying westward of Europe.

AZOTH, in ancient chemistry, the first matter of metals, or the mercury of a metal; more particularly, that which alchemists call the mercury of philosophers, and which they pretend to draw from all sorts of metallic bodies.

The azoth of Paracelsus, which he boasted of as an universal remedy, is pretended to be a preparation of gold, silver, and mercury.

AZURE, in a general sense, the blue colour of the sky. See *SKY* and *BLUE*.

AZURE, among painters, the beautiful blue colour, with a greenish cast, prepared from the lapis lazuli, generally called ultramarine.

With greater propriety, however, azure signifies that bright blue colour prepared from the lapis armenus, a different stone from the lapis lazuli, though frequently confounded together. This colour is, by our painters, commonly called Lambert's blue.

AZURE, in heraldry, the blue colour in the arms of any person below the rank of a baron. In the escutcheon of a nobleman, it is called sapphire; and in that of a sovereign prince, Jupiter. In engraving, this colour is expressed by lines, or strokes drawn horizontally. See plate XXI. fig. 2.

AZURIUM, the name of a chemical preparation from two parts of mercury, one of sulphur, and a fourth of sal ammoniac, mixed in a mortar, put into a glass vessel, and set over the fire till a bluish smoke arises, &c.

AZYGOS, in anatomy, a vein arising within the thorax on the right side, having no fellow on the left; whence it is called *azygos*, or *vena sine pari*.

It is extended through the right side of the cavity of the thorax, and being descended to the eighth or ninth vertebra, it then begins to keep the middle, and sends forth on each side intercostal branches to the interstices of the eight lowest ribs; being then divided into two branches, of which the larger descends to the left, betwixt the processes of the diaphragm, and is inserted sometimes into the cava, above or below the emulgent, but oftener joined to the emulgent itself. The other, which goes down on the right side, enters the cava, commonly a little above the emulgent, but is very seldom joined to the emulgent itself.

AZYMITES, *αζυμιται*, in church-history, christians who administer the eucharist with unleavened bread. This is an appellation given to the latin by the greek church, who also call the armenians and maronites, who use unleavened bread in their office, by the name of azymites. See the next article.

AZYMOUS, *αζυμος*, something unfermented, as bread, &c. made without leaven.

This term has occasioned frequent disputes, and, at length, a rupture between the latin and the greek churches; the former of which maintain, that the bread in the mass ought to be azymous, unleavened, in imitation of the paschal bread of the jews, and of our saviour, who instituted the sacrament on the day

of the passover. The latter as strenuously maintain the contrary from tradition, and the common usage of the church. It is related, that during the first ages of the church, none but unleavened bread was used in the eucharist, till such time as the Ebionites arose, who held, that all observances prescribed by Moses, were

still in force; Upon which both the eastern and western churches took up the use of leavened bread; and after the extinction of that heresy, the western church, returned to the azymous, the eastern obstinately adhering to the former usage. It is observed by Galen, that all unfermented bread is very unwholesome.

B.

B. The second letter of the alphabet, and first consonant, is supposed, in its pronunciation, to resemble the bleating of a sheep.

It is formed in the voice by a strong and quick expression of the breath, and opening of the lips; and is therefore one of the labials: as a mute, it hath a middle power between the smooth sound of P, and the rougher sound of F, and V.

B is also used as an abbreviation: thus, in music, **B** stands for the tone above **A**, as **B^b**, or **bB**, does for **B** flat, or the semitone major above **A**: **B** also stands for bass, and **B. C.** for *basso continuo*, or thorough bass. As a numeral, **B** was used by the Greeks and Hebrews, to denote 2: but among the Romans, for 300, and with a dash over it (thus **Ḃ**) for 3000. The same people likewise used **B** for Brutus, **B. F.** for *bonum factum*. **B** and **V** are used indifferently for each other, as *sebum* and *sevum*: so also **B** and **P**, as *Publicola* and *Poplicola*; and **B** and **F**, as *Bubalus* and *Bufalus*. **B**, in the chemical alphabet, signifies Mercury. **B. A.** stands for batchelor of arts; **B. L.** for batchelor of laws; and **B. D.** for batchelor of divinity. **B** is servile in the inflection of the dative and ablative plural of the third, fourth, and fifth declension of latin nouns.

BABBLING, among sportsmen, is said of hounds which are too busy, after they have found a good scent.

BABELMANDEL, a little island at the entrance of the Red-sea, from the indian ocean; from whence the straits of Babel-mandel take their name.

BABOON, in zoology, a large kind of ape, common in the East and West Indies. The head is large, and the mouth in a particular manner furnished with whiskers, the face is naked, but the back part

of the head hairy. It has a very short tail, and is of a dark olive-colour. See the article **SIMIA**.

BABYLON, a celebrated city of antiquity, supposed to have been situated on the river Euphrates, though not on its present channel, in 44° east longitude, and 32° north latitude. But of this once so flourishing a city, there are now no remains; nor even the place, where it stood, certainly known.

BABYLON was also an antient city of Egypt, supposed to have stood where Grand-Cairo does at present.

BABYLONISH, or **BABYLONIAN**, something belonging, or peculiar to Babylon: thus, we meet with babylonian epocha, hour, &c. See the articles **EPOCHA**, **HOOR**, &c.

BABYLONICS, *Babylonica*, in literary history, a fragment of the antient history of the world, ending at 267 years before Christ; and composed by Berosus or Berossus, a priest of Babylon, about the time of Alexander. Babylonics are sometimes also cited in antient writers by the title of Caldaics. The Babylonics were very consonant with scripture, as Josephus, and the antient christian chronologers assure; whence the author is usually supposed to have consulted the Jewish writings. Berosus speaks of an universal deluge, an ark, &c. He reckons ten generations between the first man and the deluge, and marks the duration of the several generations by *savoi*, or periods of 223 lunar months; which reduced to years, differ not much from the chronology of Moses.

The Babylonics consisted of three books, including the history of the antient Babylonians, Medes, &c. but only a few imperfect extracts are now remaining of the work; preserved chiefly by Josephus, and

and Syncellus; where all the passages of citations of ancient authors out of Berosus are collected with great exactness. Anniius of Viterbo kindly offered his assistance to supply the loss, and forged a compleat Berosus out of his own head. The world has not thanked him for the imposture.

BABYROUSSA, in zoology, the indian hog. See the article **HOG**.

This is the sus with two teeth growing on the forehead, and is a very extraordinary animal; it is of the bigness of our largest hogs, but less corpulent in proportion to its height; the most distinguishing character of this species of the hog, is a pair of exerted teeth in the lower jaw, not unlike those of many other animals, and another pair in the upper jaw, which perforate the flesh of the head, and stand forward in the manner of horns.

BACA, a town of Granada in Spain; situated about forty-eight miles north-east of the city of Granada, in 3° west longitude, and 37° 30' north latitude.

BACCA, **BERRY**, in botany, &c. See the article **BERRY**.

BACCASERAI, the capital city of Crim-Tartary, situated about eighty miles west of the straits of Kassa, in 35° east longitude, and 45° 15' north latitude.

BACCEM, or **BACIAIM**, a sea-port town of Cambaya, in the hither peninsula of India. It belongs to the Portuguese, and is situated in 73° east longitude, and 19° 20' north latitude.

BACCHÆ, in antiquity, priestesses of the god Bacchus. They were likewise called *menades*, on account of the frantic ceremonies used in their feasts; as also *thyades*, which signifies impetuous, or furious. They celebrated the orgies of their god, covered with skins of tigers and panthers, and running all the night, some with their hair loose, with torches in their hands, others crowned with vine and ivy leaves, carrying the thyrsus. Along with them went cymbal-players, and drummers; while they themselves, seized with enthusiasm, made hideous lamentations.

BACCHANALIA, feasts celebrated in honour of Bacchus by the ancient Greeks and Romans; of which the two most remarkable were called the greater and lesser. The latter, called *lenæa*, from a word signifying a wine-press, were a preparation for the former, and were held in the open fields about autumn; but the greater, called *Dionysia*, from one

of the names of Bacchus, were celebrated in the city, about the spring-time. Both these feasts were accompanied with games, spectacles, and theatrical representations, and it was at this time, the poets contended for the prize of poetry.

Those who were initiated into the celebration of these feasts, represented some Silenus; others, Pan; others, Satyrs; and in this manner appeared in public night and day, counterfeiting drunkenness, dancing obscenely, committing all kinds of licentiousness and debauchery; and running over the mountains and forests, with horrible shrieks and howlings, crying out, *Ἐὐὶ Βάκχῃ, Εὐοε Βακχε*, or *ἰὼ Βάκχῃ, Ιὼ Βακχε*. Livy informs us, that during the bacchanalian feasts at Rome, such shocking disorders were practised under the cover of the night, and those who were initiated were bound to conceal them by an oath attended with horrid imprecations, that the senate suppressed them first in Rome, and afterwards throughout all Italy.

BACCHARIS, a genus of plants of the *Lyngenesia polygamia superflua* class of Linnæus; the intire flower of which consists of a mixture of hermaphrodite and female flowers. The hermaphrodite ones are monopetalous, of a funnel form, and divided into five segments; the female ones are scarce visible. The cup incloses solitary oblong seeds, crowned with simple down.

BACCHIUS, in ancient poetry, a kind of foot composed of a short syllable, and two long ones, as the word *avāri*. It takes its name from the god Bacchus, because it frequently entered into the hymns composed in his honour. The Romans called it likewise *ænotrius*, *tripodius*, *saltans*, and the Greeks *παριαμῆς*.

BACCIFEROUS, an epithet added to the names of any trees, shrubs, or plants, that bear berries, as bryony, dwarf honey-suckle, lily of the valley, asparagus, butcher's broom, night-shade, solomon's seal, and many others.

BACHELOR, or **BACHELOR**. See the article **BACHELOR**.

BACHERAC, a town of the palatinate of the Rhine, situated on the western shore of that river, in 7° east lon. and 50° north lat. It is remarkable for excellent wine, from thence called *bacherac*.

BACHIAN, one of the Molucca-islands, situated under the equator, in 125° east longitude. It belongs to the Dutch.

BACHU, a seaport town of the province of

of Chirwan, or Shirvan, in Persia. It is situated on the western shore of the Caspian sea, in 49° east lon. and 40° north lat.

BACK, *dorsum*, in anatomy. See **DORSUM**.
BACK, in the manege. To back a horse, or mount a horse, *a dos*, is to mount him bare-backed, or without a saddle. A weak-backed horse is apt to stumble: such a horse defends himself with his back, is when he leaps and plays with his fillets, and doubles his reins, to incommode his rider.

BACK, among builders. See **BAGUETTE**.

BACK-NAILS. See the article **NAILS**.

BACKS of a *bip*. See the article **HIP**.

BACK-BONE, or **SPINE**. See **SPINE**.

BACK-GAMMON, an ingenious game played with dice and tables, to be learned only by observation and practice.

However, the following rules concerning it, cannot fail to be acceptable to our readers. In the first place, the men, which are thirty in number, being equally divided between the two gamblers, are placed thus, *viz.* two on the ace point, five on the side of your left hand table, three on the cinque, and five on the ace point of your right hand table; which are answered on the like points by your adversary's men: or they may be disposed thus, *viz.* two on the ace point, five on the double six or six-cinque point, three on the cinque point in your own tables, and five on the six point at home; which are to be answered by your adversary.

The men being thus disposed, be sure to make good your trey and ace points; hit boldly, and come away as fast as you can. When you come to bearing, have a care of making when you need not; and doublets now will stand you most in stead. If both bear together, he that is first off, without doublets, wins one: if both bear, and one goes off with doublets, he wins two. If your table be clear before your adversary's men are come in, that is a back-gammon, which is three; but if you thus go off with doublets, it is four.

The great dexterity of this game, is to be forward, if possible, upon safe terms; and so to point the men, that it shall not be possible for the adversary to pass; though you have entered your men, till you give him liberty, after having got two to one of the advantage of the game.

BACK-STAFF, in the sea-language, an instrument to take the sun's altitude. It consists of two arches, and three vanes: the arch *f g* (plate XXV. fig. 1.) con-

tains commonly sixty degrees, whence it is generally called the sixty arch; and is numbered from *f* towards *g*; the other arch, *d e*, contains thirty degrees, or the complement of the former, being numbered from *e* towards *d*. On the surface of this arch are described twelve concentric circles, whereby each degree, by the help of diagonal lines, is divided into 12 equal parts, and consequently the altitude may be obtained to five minutes. The sight vane *A* is a piece of wood or brass, of about three inches long and one broad, and is fitted to slide on the arch *d e*; in the middle of this vane is drilled a fine hole, through which both the solar spot, or shadow, and horizon are to be viewed at the time of observation. The horizon vane *B* is of about the same length and breadth as the former; and at the time of observation is fixed at *B*; it has a slit cut through it of about an inch long, and a quarter of an inch broad, through which the horizon is to be observed. The shade vane *C* is fitted to the arch *d e*, and has generally a convex lens set therein, which casts the solar spot on the horizon vane at the time of observation, being one of the many inventions of the celebrated Mr. Flamsteed.

To find the sun's altitude by this instrument: fix the shade vane *C* on the 60° arch, at about 15 or 20 degrees less than the complement of the altitude, and turning your back towards the sun, move the sight vane *A* up and down the arch *d e*, till the sun's image fall on the horizon vane *B*, and at the same instant you see the horizon through the slit in the horizon vane; then will the degrees cut by the shade vane *C*, on the arch *f g*, being added to those cut by the sight vane *A*, on the arch *d e*, be the sun's zenith distance at that time, which being subtracted from 90° degrees, will give his altitude. But to obtain the sun's greatest altitude, or altitude when he is in the meridian (which is required in finding the latitude) continue observing, and as the sun approaches the meridian, the sea will appear through the slit in the horizon vane, and then must the slit vane be removed lower. And thus continue observing, till the sun be in the meridian, and, as soon as he begins to decline, the sky will appear through the slit in the horizon vane, when your observation will be finished, and the degrees on the sixty arch, being added to those on the thirty arch, will give the complement of the sun's meridian altitude.

titude or zenith distance, as before.

This instrument, commonly called Davis's quadrant, from the name of the inventor, and by the French, the english quadrant, is not so accurate as could be wished; and a large heavy brass astrolabe is to be preferred before it. See the articles *ASTROLABE* and *QUADRANT*.

BACK-STAYS of a Ship, are ropes belonging to the main-mast and fore-mast, and the masts belonging to them; serving to keep them for pitching forwards or over-board. See the article *STAY*.

BACK-WORMS, in falconry. See the article *FILANDERS*.

BACKBERINDE, in law, signifies the bearing upon the back, or about a person; being a circumstance of theft apparent, for which a forester may arrest an offender in the forest against vert and venison.

BACKING a colt or horse. See *HORSE*.

BACULE, in fortification, a kind of portcullis, or gate, made like a pit-fall with a counterpoise, and supported by two great stakes. It is usually made before the corps de guard, not far from the gate of a place.

BACULOMETRY, the art of measuring accessible, or inaccessible heights, by the help of one or more baculi, staves, or rods.

BACULUS DIVINATORIUS. See the article *VIRGULA DIVINA*.

BADAJOX, a large fortified town of spanish Estremadura, situated on the river Guadiana, in $7^{\circ} 20'$ west longitude, and $38^{\circ} 45'$ north latitude.

BADALON, a town of Catalonia, in Spain, situated on the Mediterranean, about ten miles east of Barcelona, in $2^{\circ} 15'$ east longitude, and $41^{\circ} 15'$ north latitude.

BADEN, the name of several towns: 1. Of one about twenty miles north of Strasbourg, capital of the margravate of the same name, and remarkable for its hot baths. 2. Of another town of Swabia, in the Brisgow; where are likewise several hot baths. 3. Of one in Switzerland, about fourteen miles north-west of Zurich. 4. Of one in the circle of Austria, about fifteen miles south of Vienna.

BADENOCH, an inland country of Inverness-shire, in Scotland, lying between Aberdeen-shire and Lochaber.

BADGER, *meles*, in zoology. See *MELES*.

BADGER, in old law-books, one that was licenced to buy corn in one place, and carry it to another to sell, without incurring the punishment of an ingrosser.

BADIAGA, a water-plant resembling the alcyoniums, but full of small round granules, like seeds. Linnaeus makes it a species of sponge. See *SPONGIA*.

It is a native of the northern kingdoms of Europe, and is said to be good for removing the livid marks from blows.

BADIS, a fortress of Livonia, subject to Russia, and situated twenty miles west of Revel, in 23° east lon. and $59^{\circ} 15'$ north latitude.

BÆCKEA, in botany, a genus of the octandria monogynia class of plants, the calyx of which is a permanent perianthium, consisting of a single funnel-shaped leaf, cut into five segments at the brim; the corolla consists of five roundish spreading petals inserted into the cup: the pericarpium is a globose capsule, made up of four valves, and containing four cells, in which are a few roundish angular seeds.

BÆTYLIA, *βαυτυλια*, anointed stones, worshipped by the Phœnicians, by the Greeks before the time of Cæcrops, and by other barbarous nations. They were commonly of a black colour, and consecrated to some god, as Saturn, Jupiter, the Sun, &c.

Some are of opinion, that the true original of these idols is to be derived from the pillar of stone which Jacob erected at Bethel.

BÆZA, or *BAEZA*, a large city of Andalusia in Spain, situated on the river Guadalquivir, in $3^{\circ} 15'$ west longitude, and $37^{\circ} 40'$ north latitude.

BAFFETAS, or *BASTAS*, a cloth made of coarse white cotton thread, which comes from the East Indies. Those of Surat are the best.

BAFFIN'S BAY, a gulph of north America, running north-east from cape Farewell in west Greenland, from 60° north latitude to 80° .

BAG, in commerce, a term signifying a certain quantity of some particular commodity; as a bag of almonds, for instance, is about three hundred weight; of anise-seeds, from three to four hundred, &c.

Bags are used in most countries, to put several sorts of coin in, either of gold, silver, brass, or copper. Bankers, and others who deal much in current cash, label their bags of money, by tying a ticket or note at the mouth of the bag, signifying the coin therein contained, the sum total, its weight, and of whom it was received. Tare is allowed for the bag.

BAG,

BAG, among farriers, is when, in order to retrieve a horse's lost appetite, they put an ounce of asa foetida, and as much powder of fayn, into a bag, to be tied to the bit, keeping him bridled for two hours, several times a day: as soon as the bag is taken off, he will fall to eating. The same bag will serve a long time.

BAG is also used compounded with other words, as oil-bag, petty-bag, sand-bags, &c. See the articles OIL, PETTY, &c.

BAGDAT, a strong town of Turkey, on the frontiers of Persia, situated on the river Tigris, in the province of Iracac arabic; it was formerly capital of the saracen empire, and lies in 43° east-longit. and $33^{\circ} 20'$ north latitude.

BAGGAGE, in military affairs, denotes the cloaths, tents, utensils of divers sorts, provisions, and other necessities belonging to an army.

Before a march, the waggons with the baggage are marshalled according to the rank which the several regiments bear in the army; being sometimes ordered to follow the respective columns of the army, sometimes to follow the artillery, and sometimes to form a column by themselves. The general's baggage marches first; and each waggon has a flag, shewing the regiment to which it belongs.

BAGGING of *bops*, the putting them in bags. See the article HOPS.

BAGNAGAR, the capital of Golconda, in the hither peninsula of India, formerly the residence of the kings of Golconda, now subject to the mogul: in east long. $77^{\circ} 30'$, and north latitude $16^{\circ} 30'$.

BAGNIALUCK, a large city of Bosnia, in european Turkey, situated in $18^{\circ} 15'$ east longitude and 44° north latitude.

BAGNIO, an italian word, signifying a bath: we use it for a house with conveniences for bathing, cupping, sweating, and otherwise cleansing the body; and sometimes for worse purposes.

BAGNIO is, in Turkey, become a general name for the prisons where their slaves are inclosed, it being usual in these prisons to have baths.

BAGNOLIANS, BAGNOLENCES, in church-history, a sect of heretics, who in reality were manichees, though they somewhat disguised their errors. They rejected the Old Testament, and part of the New; held the world to be eternal, and affirmed that God did not create the soul when he infused it into the body.

BAGPIPE, a musical instrument of the wind kind, chiefly used in country places,

especially in the north: it consists of two principal parts; the first a leathern bag, which blows up like a foot-ball, by means of a port-vent, or little tube, fitted to it, and stopped by a valve: the other part consists of three pipes or flutes, the first called the great pipe, or drone; and the second, the little one; which pass the wind out only at the bottom: the third has a reed, and is played on by compressing the bag under the arm, when full, and opening or stopping the holes, which are eight, with the fingers. The little pipe is ordinarily a foot long; that played on, thirteen inches; and the port-vent six.

BAGUETTE, in architecture, a small round moulding, leis than an astragal, and so called from the resemblance it bears to a ring.

BAHAMA, or LUCAYA-ISLANDS, a number of islands lying in the Atlantic ocean, between 21° and 27° north latitude, and between 73° and 81° west longitude.

These islands, whereof twelve are of a considerable extent, take their name from Bahama, one of the largest of them, lying between 78° and 81° west longitude, and between 26° and 27° north latitude.

BAHAR, or BARRE, in commerce, weights used in several places in the East-Indies. There are two of these weights, the one the great bahar, with which they weigh pepper, cloves, nutmegs, ginger, &c. and contains five hundred and fifty pounds of Portugal, or about five hundred and twenty-four pounds nine ounces avoirdupois weight. With the little bahar they weigh quicksilver, vermilion, ivory, silk, &c. It contains about four hundred and thirty-seven pounds nine ounces avoirdupois weight.

BAHAREN, an island in the persian gulph, in 50° east lon. and 26° north lat.

BAHIR, a hebrew term, signifying famous or illustrious; but particularly used for a book of the Jews, treating of the profound mysteries of the cabbala, being the most antient of their rabbinical works.

BAHUS, a city of Sweden, capital of a province of the same name, and situated about twenty miles north-west of Gottenburgh, in 11° east longitude, and $58^{\circ} 20'$ north latitude.

BAJA, a town of Italy, in the kingdom of Naples, and province of Lavoro, situated in $14^{\circ} 45'$ east long. $41^{\circ} 6'$ north lat.

BAJADOR, a cape on the west coast of Africa, in 15° west long. and 27° north latitude.

BAIL, in law, the setting at liberty one arrested, or imprisoned, upon an action, either civil or criminal; upon sureties taken for his appearance at a day and place assigned; and is either common or special.

Common bail is in actions of small prejudice, or slight proof, in which case any sureties are taken.

Special bail is that given in cases of greater moment, where it is required that the sureties be subsidy-men at least, and according to the matter in question.

It was some years ago enacted, that no person should be held to special bail in any action brought for less than ten pounds: but this is only observed as to writs issued out of the courts of Westminster-hall; for the marshal's court continues to arrest and hold to special bail in actions exceeding forty shillings.

By the indulgence of the common law, all persons might be bailed till they were convicted of the offence laid to their charge: but it is enacted by statute, that murderers, outlaws, house-burners, thieves openly defamed, shall not be bailed. However, this statute does not extend to the court of the king's-bench, which bails in all cases whatsoever, and may bail even for murder, &c.

Clerk of the BAILS is an officer belonging to the court of the king's-bench: he files the bail-pieces taken in that court, and attends for that purpose.

BAILE, or **BALE**, in the sea-language. The seamen call throwing the water by hand, out of the ship or boat's hold, bailing. They also call those hoops that bear up the tilt of a boat, its bails.

BAILMENT, in law, the delivery of things, whether writings or goods, to another, sometimes to be delivered back to the bailer, that is, to him who so delivers them; sometimes, to the use of him to whom they are delivered; and sometimes, to a third person.

BAILIAGE, or **BAILIWICK**. See the article **BAILIWICK**.

Water-BAILIAGE, an antient duty paid to the city of London, for all goods brought into, or carried out of the port.

BAILIFF, an officer appointed for the administration of justice within a certain district, called a bailiwick.

BAILIFFS ERRANT, such as are appointed by the sheriff, to go up and down the county, to serve writs and warrants, summon county-courts, sessions, assizes, and the like.

BAILIFFS of franchises, those appointed by every lord within his liberty, to do such offices therein, as the bailiff errant does at large in the county.

There are also bailiffs of forests, and bailiffs of manors, who direct husbandry, sell trees, gather rents, pay quit rents, &c.

Water-BAILIFF, an officer appointed in all port-towns, for the searching of ships, gathering the toll for anchorage, &c. and arresting persons for debts, &c. on the water.

BAILIFF, however, is still applied to the chief magistrate of several corporate towns. The government of some of the king's castles is also committed to persons called bailiffs, as the bailiff of Dover castle.

In France, bailiffs have some considerable prerogatives: they are reputed heads of their respective districts, or administer justice by their lieutenants, at least within the precincts of the several parliaments or provinces of France. In their name justice is administered, contracts and other deeds passed, and to them is committed the command of the militia.

In Scotland bailiff is the name of a judge, as well as the appellation of aldermen.

BAILIWICK, that liberty which is exempted from the sheriff of the county, over which liberty the lord thereof appoints his own bailiff, with the like power within his precinct, as an under-sheriff exercises under the sheriff of the county: or it signifies the precinct of a bailiff, or the place within which his jurisdiction is terminated.

BAILO, thus they stile at Constantinople the ambassador of the republic of Venice, who resides at the porte. This minister, besides his political charge, acts there the part of a consul for Venice.

BAIOCCO, a copper coin, current at Rome, and throughout the whole state of the church, ten of which make a julio, and an hundred a roman crown.

BAIRAM, in the mahometan customs, a yearly festival of the Turks, which they keep after the fast of ramazan.

The mahometans have two bairams, the great and the little.

The little bairam holds for three days, and is seventy days after the first, which follows immediately the ramazan. During the bairam the people leave their work for three days, make presents to one another, and spend the time with great manifestations of joy. If the day after ramazan should prove so cloudy as to prevent the

the fight of the new moon, the hairam is put off to the next day, when it is kept, even if the moon should still be obscured. When they celebrate this feast, after numerous ceremonies, or rather strange mimicries, in their mosque, it is concluded with a solemn prayer against the infidels, to extirpate christian princes, or to arm them against one another, that they may have an opportunity to extend the borders of their law.

BAIT, in fishing, a thing prepared to take and bring fishes to.

Baits are of two sorts, 1. The natural ones, or those generally living, as maggots, bobs, frogs, &c. 2. Of the second kind, are all artificial baits, whether such as imitate the living baits, or pastes of several compositions and figures.

Sheep's blood and cheese are good baits in April; the bobs dried, wasps, and bees, are for May; brown flies for June; maggots and hornets for July; snails in August; grasshoppers in September; corn and bramble-berries at the fall of the leaf: the red earth-worm is good for small fish all the year round; and small fish are good baits for pikes at all times.

There are several artificial baits for intoxicating of fowls, and yet without tainting or hurting their flesh: for the greater sort of land-fowls the bait may be made thus: take a peck, or a lesser quantity of wheat, rye, &c. with which mix two handfuls of nux vomica; boil them together till they are almost ready to burst; strew them upon the land, where you design to take the fowl, and such as eat thereof will be intoxicated, and lie as if dead: small birds may be taken, with only this alteration; instead of wheat, or the like grain, take hemp-seed, &c.

BAITING, in falconry, is when a hawk flutters with her wings, either from perch or fist, as if it were striving to get away.

BAITING also denotes the act of smaller, or weaker beasts attacking, and harassing greater and stronger ones. In this case, we hear of the baiting of bulls and bears by mastiff or bull dogs, with short noses, that they may take the better hold. Whales are baited by a kind of fish called *oria* or *killers*; ten or twelve of which will attack a young whale at once, and not leave him till he is killed.

Houghton gives us the history of bull-baiting, a sport peculiar to England, and favouring, like some others, of our ancient gothicism. Some of our countrymen are said to be fond enough of it, to

buy bulls on purpose, and travel with them, at great charge, to all the chief towns around. Policy, in some cases, enjoins bull-baiting. This animal is rarely killed without being first baited; the chaffing and exercise whereof makes his flesh tenderer and more digestible. In reality, it disposes it for putrefaction; so that, unless taken in time, baited flesh is soon lost. But a spirit of barbarism had the greatest share in supporting the sport: bulls are kept on purpose, and exhibited as standing spectacles for the public entertainment. The poor beasts, have not fair play; they are not only tied down to a stake, with a collar about their necks, and a short rope, which gives them not above four or five yards play, but they are disarmed too, and the tips of their horns cut off, or covered with leather, to prevent their hurting the dogs. In this sport, the chief aim of the dog is to catch the bull by the nose, and hold him down; to which end, he will even creep on his belly: the bull's aim, on the contrary, is, with equal industry, to defend his nose; in order to which, he thrusts it close to the ground, where his horns are also in readiness to toss the dog.

BAJULUS, an antient officer in the court of the greek emperors.

There were several degrees of bajuli, as the grand bajulus, who was preceptor to the emperor, and the simple bajuli, who were sub-preceptors.

BAKAL a great lake, in the middle of Siberia, on the road from Moscow to China.

BAKER, a person whose occupation or business it is to bake bread. See the articles **BAKING** and **BREAD**.

The Bakers of London make a distinct company, the nineteenth in order.

BAKEWELL, a large market-town of Derbyshire, about one hundred and fifty miles from London. It is a good market for lead.

BAKING, the art of preparing bread, or reducing meals of any kind, whether simple or compound, into bread.

The various forms of baking among us may be reduced into two, the one for leavened, the other for unleavened bread; for the first, the chief is manchet-baking, the process whereof is as follows:

The meal, ground and boulded, is put into a trough, and to every bushel are poured in about three pints of warm ale, with barm and salt to season it; this is kneaded well together, with the hands

through

through the brake; or for want thereof, with the feet, through a cloth; after which, having lain an hour to swell, it is moulded into manchets, which scotched in the middle, and pricked at top, to give room to rise, are baked in the oven by a gentle fire.

For the second, sometimes called cheat-bread-baking, it is thus: some leaven (saved from a former batch) filled with salt, laid up to four, and at length dissolved in warm water, is strained through a cloth into a hole made in the middle of the heap of meal in the trough; then it is worked with some of the flour into a moderate consistence; this is covered up with meal, where it lies all night, and in the morning the whole heap is stirred up, and mixed with a little warm water, barm, and salt, by which it is seasoned, softened, and brought to an even leaven: it is then kneaded, moulded, and baked, as before.

BAKING of porcelain. See **PORCELAIN**.

BALA, in geography, a market town of Merionethshire, about sixteen miles south from Denbigh, in $3^{\circ} 40'$ west longitude and $51^{\circ} 55'$ north latitude.

BALÆNA, the **WHALE**, in zoology, a genus of fishes, of the order of the *plagiuri*, distinguished by having certain laminae, of a horny substance, in the upper jaw, which supply the place of teeth, and usually no fin upon the back: to this it may be added, that the fistula, or aperture for the discharge of water, is double, and situated either on the forehead, in the middle of the head, or in the rostrum. See the article **WHALE**.

The horny laminae make the substance which we call whale-bone.

BALAGNA, a town of Muscovy, in the province of Novogorod, situated on the river Wolga, in 45° east long. and $56^{\circ} 30'$ north latitude.

BALAGUER, a city of Catalonia, in Spain, in $30'$ east long. and $41^{\circ} 30'$ north lat.

BALANCE, or **BALLANCE**. See the article **BALLANCE**.

BALANI, **MARINI**, certain multivalve shells, usually growing in clusters on the shells of the larger sort of the sea shell-fish: sometimes they are found large, loose, and petrified, at a great distance from the sea; in which state they are distinguished by the name *balanite*.

The balanus is a sea-shell fish, of an oblong figure, approaching to that of an

acorn, open at the mouth or top, and composed of several portions, or valves, from six to twelve in number, not moveable or loose, as in the other bivalve or multivalve shells, but fixed to one another by an intermediate substance: the animal inhabiting this shell is called a triton. See **TRITON**.

BALANUS, in anatomy, a term sometimes used for the glans penis, as well as for the clitoris.

BALANUS, in pharmacy, denotes a suppository. See the article **SUPPOSITORY**.

BALAUSTINE, *balaustina*, in botany, the name by which the great double-flowered pomegranate is commonly called. See the article **PUNICA**.

The fruit of this species is a powerful astringent, and consequently recommended in fluxes of all kinds.

BALASTRO, a city of Arragon, in Spain, situated upon the river Sinca, in $15'$ west lon. and 42° north lat.

BALBEC, a town of asiatic Turkey, situated at the foot of mount Libanus, in $37^{\circ} 30'$ east long. and 33° north lat.

BALCH, a city of Usbec Tartary, situated on the frontiers of Persia, in $65^{\circ} 20'$ east long. and 37° north lat.

BALCONY, in architecture, a projecture in the front of a house, or other building, supported by pillars, or consoles, and encompassed with a balustrade: or it is a kind of open gallery, for people to stand in, to behold any public show, or for taking the air in. They are usually level with the first floor, and are made of wood, or iron.

BALDACHIN, or **BALDAQUIN**, in architecture, a building in form of a canopy, supported by pillars, and frequently used as a covering to insulated altars. Some also use the term baldachin for the shell over a door.

BALDIVIA, or **VALDIVIA**, a sea-port town of Chili, in south America, situated on the south sea, in 80° west longit. and 40° south latitude.

BALDNESS, a defect of hair, owing to the want of a sufficient supply of nutritious juice, or to some bad quality therein. See **CALVITIES**, **ALOPECIA**, &c.

BALDOC, a market-town in Hertfordshire, about thirty-eight miles north of London, in $15'$ west longit. and $51^{\circ} 55'$ north latitude.

BALE, in commerce, is said of merchandizes packed up in cloth, and corded round

round very tight, in order to keep them from breaking, or preserve them from the weather. Most of the merchandize capable of this kind of package, designed for fairs or exportation, ought to be in bales, and too much care cannot be taken in packing them, to prevent their being damaged. The bales are always to be marked and numbered, that the merchants to whom they belong, may easily know them.

A bale of cotton yarn is from three to four hundred weight; of raw silk, it is from one to four hundred; of lockram or dowlas either three, three and a half, or four pieces.

BALE-GOODS, among the english merchants, are all such as are imported or exported in bales; but the French give that name to certain hardwares, and other sort of merchandize, which come to Paris, and are commonly made by bad workmen, of indifferent materials.

BALEARES, the antient name for the the islands of Majorca, Minorca, and Ivica. See the articles **MAJORCA**, &c.

BALL, an island of the East-Indies, situated in 114° east lon. and $7^{\circ} 30'$ south lat. This island, and the east end of the island of Java, form a streight about a mile over, of extremely difficult passage.

BALISORE, a small sea-port of the hither India, situated on the north-west part of the bay of Bengal, in $85^{\circ} 15'$ east long. and $21^{\circ} 30'$ north latitude.

BALISTA, or **BALLISTA**. See the article **BALLISTA**.

BALISTES, a genus of the branchiostegious order of fishes, having only one belly-fin, on the back there are some robust spines; the jaws are furnished with very large teeth, which are placed contiguous to each other, and are protended forwards, having much the appearance of those in the human mouth; and in other species, of those of the hog: the body and the head are compressed and broad.

BALIVO AMOVENDO, in law, was a writ for removing a bailiff from his office, for want of having sufficient land in his bailiwick to answer the king and his people according to the statute of Westminster, 2 reg. Orig. 78.

BALK, among builders, is sometimes used for the summer-beam of a house; sometimes for the poles and rafters, which support the roofs of barns, &c. and sometimes for the beams used in making sea-holds.

BALK, in agriculture, denotes a ridge, or bank between two furrows.

BALL, in a general sense, a spherical and round body, whether it be so naturally, or turned into that figure by the hand of an artist: thus we say, a tennis-ball, foot-ball, cotton-ball, &c. The word is also used to signify some tools of several trades and arts, because they bear some resemblance to balls.

BALL, in the military art, comprehends all sorts of bullets for fire arms, from the cannon to the pistol.

Cannon-balls are made of iron, musquet-balls, pistol-balls, &c. are of lead. The experiment has been tried of iron balls for pistols and fuses, but they are justly rejected, not only on account of their lightness, which prevents them from flying strait, but because they are apt to furrow the barrel of the pistol, &c. See **SHOT**.

BALL AND SOCKET is an instrument made of brass, with a perpetual screw, so as to move horizontally, vertically, and obliquely; and is generally used for the managing of surveying instruments, and astronomical instruments.

BALL of a pendulum, the same with bob. See the article **BOB**.

BALL, among printers. See the article **PRINTING**.

Puff-BALL, the english name of the *lycoperdon*. See the article **LYCOPERDON**.

BALLAD, or **BALLET**, a kind of song, adapted to the capacity of the lower class of people; who being mightily taken with this species of poetry, are thereby not a little influenced in the conduct of their lives. Hence we find, that seditious and designing men never fail to spread ballads among the people, with a view to gain them over to their side.

BALLANCE, or **BALANCE**, in mechanics, one of the simple powers which serves to find out the equality or difference of weight in heavy bodies.

The ballance is of two kinds, antient and modern: the antient, or roman, called *statera romana*, or steelyard, consists of a lever **AB** (plate **XXV**. fig. 2. n^o 1.) moveable on a center **C**, and suspended near one of its extremities; the two arms **CA**, **CB** being kept in equilibrio by a ball **A**, fixed at the end of the shortest arm **CA**: on this the body to be weighed is suspended, and its weight is measured by the divisions marked on the beam, on the other side; where a moveable weight keeps the ballance in equilibrio. For example, if the body to be weighed, and put into the scale **D**, be in equilibrio with the weight, when this last is moved

to the sixth division on the longest arm, then will the said body be just six times the weight, when the scale D is suspended from the first division; but if from the second, as in the figure referred to, it will be only triple the weight.

The modern balance consists of a lever, suspended exactly by the middle, and scales affixed to each extremity: the principle on which each is founded is the same, and may be conceived from what follows.

The modern or common balance being a lever that has equal arms A G, and G B (*ibid.* n° 2.) with the center of motion C commonly placed directly over G; because if the center of motion was in G, equal weights suspended from A and B, would sustain each other in any position of the lever A B; but when the center of motion is above G, they only sustain each other when the lever A B is level; and when the weight at A is but a little greater than the weight at B, the ends A and B descend and ascend by turns, till their common center of gravity g settles in the vertical line C g, where they sustain each other, because their center of gravity is sustained by C. The balance is false, when the arms A G and G B are unequal; and the exactness of this instrument, chiefly depends upon making the friction at the center of motion C as small as possible.

The roman balance or steelyard, is nothing but a lever of the first kind, but whose arms are unequal; so that its mechanism depends upon the same theorem with that of the lever. See the article LEVER.

The difference between the use of the scales and the steelyard, consists in this, that as in the former, you make use of a larger power, or more weight, to estimate the weight of an heavier body; in the latter, you use the same power, but give it a greater velocity with respect to that of the weight, by applying it further from the fixed point, which will have the same effect.

Hydrostatical BALANCE. See the article HYDROSTATICAL-BALANCE.

BALANCE OF TRADE, in commerce, the equality between the value of the commodities bought of foreigners, and the value of the native productions transported into other nations.

It is reckoned that that nation has the advantage in the balance of trade, which exports more of native commodities, and

imports less of the foreign; so that the nation grows so much richer in bullion, as the balance of that account amounts to, which must be made up in bullion or money.

Among various others, the most received methods of arriving at the knowledge whether a nation gains or loses by foreign trade, or any branch thereof, are the following ones.

1°. A strict survey must be taken of what proportion the value of the commodities exported bears to those imported. If the exports exceed the imports, it is concluded that that nation is so far in a gaining way, by the overplus imported in bullion. But this method is uncertain, by reason of the difficulty of obtaining a true account, either of the exports or imports; as custom-house books are no rule in this case, by reason of the running of goods, especially many fine commodities of small bulk, but great value; besides the various accidents which affect the value of the stock, either sent out or brought in, as losses at sea, &c.

2°. The second method, no less defective than the other, is by observing the course of exchange, which if generally above the intrinsic value, or par of the coins of foreign countries, we not only lose by such exchange, but the same is a proof that we lose by the general course of our trade.

3°. The third method is made from the increase or the diminution of our trade and shipping in general; for if these diminish, the nation loses, and *vice versa*: this seems equally imperfect with the following.

4°. A fourth way is, by observing the increase and diminution of our coin and bullion.

BALANCE of a clock or watch. See the articles CLOCK and WATCH.

BALANCE, LIBRA, in astronomy. See the article LIBRA.

BALANCE-FISH, a name sometimes used for the *zygæna*, or hammer-headed shark. See the article ZYGÆNA.

BALLANCER, in the history of insects, a style, or oblong body, ending in a protuberance or head, found under each wing of the two-winged flies: these serve to poise the body of the fly.

BALLAST, a quantity of stones, gravel, or sand, laid in a ship's hold, to make her sink to a certain depth into the water, and sail upright, rendering her

her of a prodigious weight. The ballast is sometimes one quarter, one third, or one half, according to the difference of the bulk of the ship. Flat vessels require the most ballast. Ships are said to be in ballast, when they have no other loading. Masters of vessels are obliged to declare the quantity of ballast they bear, and to unload it at certain places. They are prohibited unloading their ballast in havens, roads, &c. the neglect of which prohibition has ruined many excellent ports.

BALLASTAGE, or **LASTAGE**. See the article **LASTAGE**.

BALLET. See **BALLAD**, and **BALLS**.

BALLIAGE, or **BAILIAGE**. See the article **BAILIAGE**.

BALLISHANNON, a large town of the county of Donnegal, and province of Ulster, in Ireland, situated about ten miles south of the town of Donnegal, in $8^{\circ} 30'$ west lon. and $54^{\circ} 25'$ north lat.

BALLISTA, in antiquity, a military machine used by the antients in besieging cities, to throw large stones, darts, and javelins.

It resembled our cross-bows, though much larger, and superior in force.

From this engine, stones of a size not less than mill-stones, were thrown with so great violence, as to dash whole houses in pieces at a blow. It is described thus, around iron cylinder was fastened between two planks, from which reached a hollow square beam, placed crosswise, and fastened with cords, to which were added screws; at one end of this stood the engineer, who put a wooden shaft with a big head into the cavity of the beam: this done, two men bent the engine by drawing some wheels: when the top of the head was drawn to the utmost end of the cords, the shaft was driven out of the ballista, &c.

BALLOON, or **BALLON**, in a general sense, signifies any spherical hollow body, of whatever matter it be composed, or for whatever purposes it be designed.

Thus, with chemists, balloon denotes a round short-necked vessel, used to receive what is distilled by means of fire; in architecture, a round globe on the top of a pillar; and among engineers, a kind of bomb made of paste-board, and played off in fire-works, either in the air or in the water, in imitation of a real bomb. Balloon, in the french paper trade, is a term for a quantity of paper, containing twenty-four reams. It is also the name

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of a sort of brigantine used in the kingdom of Siam.

BALLOTA, or **BALLOTE**, in botany, a genus of the *didynamia gymnospermia* class of plants, the flower of which is monopetalous and cloven, the upper lip being erect and crenated, and the lower obtuse and divided into three segments. There is no pericarpium; the cup inclosing four ovated seeds.

BALLOTADE, in the manege, the leap of a horse between two pillars, or upon a straight line, made with justness of time, with the aid of the hand, and the calves of the legs; and in such a manner, that when his fore feet are in the air, he shews nothing but the shoes of his hinder feet, without yeiking out. It differs from capriole and croupade, because in the former of these, the horse strikes out his hinder legs with all his force, keeping them near and even; and in croupades, he draws his hinder feet under him.

BALLOTING, a method of voting at elections, &c. by means of little balls, usually of different colours, and by the French called *ballotes*, which are put into a box privately.

BALLS, or **BALLETS**, in heraldry, a frequent bearing in coats of arms, usually denominated according to their colours, bezants, plates, hurts, &c. See the article **BEZANTS**, &c.

BALLUSTER, a small kind of pillar used for ballustrades.

BALLUSTRADE, a series or row of ballusters, joined by a rail; serving as well for a rest to the elbows, as for a fence or enclosure to balconies, altars, staircases, &c.

BALM, or **BAUM**, in botany, *melissa*. See the article **MELISSA**.

BALM, or **BALSAM**. See the article **BALSAM**.

BALNEUM, a term used by chemists to signify a vessel filled with some matter, as sand, water, or the like, in which another is placed that requires a more gentle heat than the naked fire. Thus *balneum arenosum*, called also *balneum ficcum*, and sand-heat, is when the cucurbit is placed in sand, in ashes, or filings of steel. *Balneum maris*, or *maris*, is when the vessel containing the ingredients to be distilled, &c. is put into a vessel of water, which is made to boil; so that no greater heat than that of boiling water can be communicated to the substance to be treated. And *balneum vaporis*, or

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vaporarium, is when two vessels are disposed in such a manner, that the vapour raised from the water contained in the lower, heats the matter contained in the upper. See the article BATH.

BALOTADE, or **BALLOTADE**. See the article **BALLOTADE**.

BALSAM, or **NATIVE BALSAM**, an oily, resinous, liquid substance, flowing either spontaneously, or by means of incision, from certain plants of sovereign virtue in the cure of several disorders.

There are many kinds of balsams, but the most remarkable are these. 1. Balsam or balm of gilead, called also balsamum judaicum, syriacum, e mecca, and opobalsamum; being an exudation from the true balsamum syriacum rutæ folio, so much esteemed in the country where it is produced, that it is accounted a rich present from the chief prince of Arabia felix to the grand signior. In order to have it genuine, it should be chosen fluid as oil, of a very pale yellow colour, perfectly transparent, and of a fragrant smell, with something of the lemon or citron flavour, but not too much of it. In medicine, it opens obstructions of the lungs, and heals erosions from acrimony and the worst kind of ulcerations. It is prescribed in asthmas, pleurisies, and whatsoever requires expectoration; in inward bruises and sores, particularly those of the reins and urinary passages; and externally it is used to discharge and incarnate. For internal use, it may either be given in bolusses, or dropped on sugar, or finally dissolved into an emulsion by means of the yolk of an egg. The turkish women use it as a cosmetic. 2. Balsam of peru, which is distinguished into two sorts, the white and black. The former, by way of eminence called the balsam of incision, is a liquid of a white colour, resembling in external appearance the balm of gilead, but easily distinguished from it by its smell. It is excellent for green wounds. The black balsam is obtained by boiling the wood of the tree which produces it. The best is of a darkish red colour, and of an admirable fragrantcy. It heals, dries, and discharges, and is much used externally, not only in wounds, but in palsies, ischiadic and rheumatic pains, and likewise by perfumers, on account of its excellent smell. 3. Balsam of tolu, is produced from a tree, a species of the pine, which grows in new Spain. It is of a deep yellowish colour, approaching near to red, and of a most delicate scent, much

beyond any other balsam. It first flows from the tree of the consistence of ordinary turpentine; but by keeping, we meet with it frequently so hard as to be brittle. Its virtues are the same in general with those of the peruvian and gilead kinds. It is given in consumptions and disorders of the breast, sometimes in form of pills, sometimes of electuary; but as it has not the pungency of the other kinds, the best form of giving it is in emulsion dissolved in the yolk of an egg, and so mixed with water. 4. Balsam of capivi, or of copaiba, is the produce of one of the *arbores filiquose flore uniformi* of Mr. Ray. It is of a thinner consistence than the common turpentine, but much more fragrant and detergent. It passes away quickly by urine, and mightily cleanses those passages; for which reason it hath obtained very much in gonorrhœas and all obstructions and ulcerations of those parts. The most agreeable way of taking it, is either in powdered sugar, or dropped into water. 5. Balsam of liquid amber may be justly reckoned among the simples of the balsamic kind. It drops from a tree of Mexico, called arbor styracifera, upon an incision being made into its bark. It is a resinous and pingous liquor, of a reddish yellow colour, of an acrid aromatic taste, and of the consistence of venice turpentine. Its essence strengthens the head and nervous system, and its oil is of singular efficacy, both for external and internal uses.

Facitious or artificial balsams, are certain compositions chiefly of balsamic and healing ingredients, made by apothecaries in imitation of the native balsams. It would be almost endless to specify all the artificial balsams which have been contrived by dispensatory-writers. Lemery, in his *pharmacopée universelle*, has seventy-three different sorts, besides many others in foreign dispensaries. The most remarkable of the London and Edinburgh dispensaries, are balsam of amber, of guaiacum, of locatellus, of sulphur simple, or with barbaodes tar, of turpentine, vulnerary, of many virtues, anodyne of bates and guido, apoplectic, magisterial, martiale and paralyticum. For the uses and method of preparing the balsam of Locatellus, see the article **LOCATELLUS's Balsam**.

Balsam, with chemists, is a name given to the solutions and preparations of some salts, as balsam of saturn, tartar, salgem, &c.

Balsam of saturn is a solution of saccharum saturni, or sugar of lead made with spirit of oil of turpentine, and digested till the matter hath gained a red tincture. Balsam, among alchemists, sometimes denotes the spirit of common salt, extracted by distillation, after placing a solution of the salt for a considerable time in horse-dung, in order to putrefy. This is said to preserve bodies the most liable to corruption.

BALSAMICS, in pharmacy, softening, restoring, healing and cleansing medicines, of gentle attenuating principles, very friendly to nature.

These medicines, on account of their fine, subtle, and volatile oil, are not only grateful and agreeable to the constitution, but act upon the fluids, as well as the solids, of human bodies; diffusing their virtues through every part, and supplying the blood and humours with a seasonable reinforcement of sulphureous, warm and ethereal particles, increasing their intestine motions, and conveying a general vigour to the vital juices.

These medicines may be used with good success, both internally and externally, in all diseases of the head, nerves, spinal marrow, stomach and heart; such as palsies, apoplexies, numbness and torpor of the senses, weakness of the memory, difficulty of hearing, excessive weakness and faintings; they are also of singular service in most disorders of the stomach, and intestines, and are exquisitely adapted to the old and infirm. See **BALSAM**.

BALSAMINA, in botany, a genus of the *syngenesia polygamia* class of plants, the flower of which consists of four, five, or six petals, and its fruit is an unilocular capsule, consisting of five valves, and containing a number of roundish seeds affixed to a placenta. See the article **IMPATIENS**.

BALTIC-SEA, that lying between Sweden on the north, and Germany and Livonia on the south.

BALTIMORE, a town of the county of Cork, and province of Munster, in Ireland, situated about five miles north of cape Clear, in $9^{\circ} 15'$ west longitude, and $51^{\circ} 15'$ north latitude.

BAMBERG, a city of Franconia, in Germany, east longitude $10^{\circ} 50'$, and north latitude $50^{\circ} 15'$.

The bishop of Bamberg is sovereign of the city and district round it, for sixty miles in length, and forty in breadth.

BAMBOE, or **BAMBOU**, a plant in the

Indies, which multiplies very much by its root, from which springs a branchy tuft, after the manner of the european reeds. It is of the largest kind of cane, and decreases gradually to the top, where it bears a blossom, like our reeds. The bamboe is a species of arundo. See the article **ARUNDO**.

BAMFF, a town of Scotland, which gives name to a county, lying between Aberdeenshire and Murray, along the southern bank of the river Spey.

The town is situated at the mouth of the river Dovern, in $2^{\circ} 5'$ west longitude, and $57^{\circ} 40'$ north latitude.

BAMPTON, a market town of Oxfordshire, situated on the river Isis, about ten miles south-west of Oxford: west longitude $1^{\circ} 35'$, and north latitude $51^{\circ} 40'$.

BAMPTON is also the name of a market-town of Devonshire, twenty miles north of Exeter: west longitude $3^{\circ} 40'$, and north latitude $51^{\circ} 5'$.

BAN, or **BANN**. See the article **BANN**.

BAN, in commerce, a sort of smooth, fine muslin, which the English import from the East-Indies. The piece is almost a yard broad, and runs about twenty yards and an half.

BANBURY, a large borough-town in Oxfordshire, twenty miles north of Oxford: west longitude $1^{\circ} 20'$, and north latitude $52^{\circ} 5'$.

BANC, or **BENCH**, in law, denotes a tribunal, or judgment-seat: hence, king's banc is the same with the court of king's bench, and common banc, with that of common pleas. See the articles **KING'S BENCH** and **COMMON PLEAS**.

BANCA, an island in the East-Indies, separated from the south-east part of that of Sumatra by a very narrow channel: east lon. 105° , and south lat. 3° .

BANCALIS, a sea-port town on the east coast of Sumatra: east longitude 99° , and north latitude 2° .

It is a Dutch settlement.

BANCOCK, a city of the kingdom of Siam: east longitude 101° , north latitude $13^{\circ} 30'$.

BAND, in a general sense, some small, narrow ligament, wherewith any thing is bound, tied, or fastened.

BAND, in architecture, a general name for any flat, low member, or moulding, that is broad, but not very deep.

BAND of soldiers, in military affairs, those who fight under the same flag or ensign.

Trained BANDS. See **TRAIN BANDS**.

BAND of pensioners, are a company of forty

gentlemen, who receive a yearly allowance of 100*l.* for attending on his majesty on solemn occasions. See the article **PENSIONER**.

BAND is also the denomination of a military order in Spain, instituted by Alphonfus XI. king of Castile, for the younger sons of the nobility, who, before their admission, must serve ten years, at least, either in the army, or at court; and are bound to take up arms for the catholic faith against the infidels.

BAND, in surgery, a fillet, swathe, or piece of linen-cloth, wherewith either to cover, or surround certain parts that stand in need of assistance; and is, in this sense, the same with what is otherwise called a bandage or roller.

BANDA, or **LANTOR**, the chief of the Banda-islands in the East Indies, where nutmegs grow; east longitude 128°, and south latitude 4° 30'.

BANDAGE, in surgery, a fillet, roller, or swathe, used in dressing and binding up wounds, restraining dangerous hæmorrhages, and in joining fractured or dislocated bones.

Bandages should be made of strong linen cloth, that has been softened by wearing. They are of different forms, according to the uses they are designed for. Some are common, or applicable to any part; others are proper, or applicable only to particular parts. Some again are simple, or made up of one entire part; others compound, or composed of several pieces sewed together in different manners. In plate XXV. fig. 3. N°. 3. represents a simple bandage not rolled up, and is that used in phlebotomy; N°. 2. is another simple bandage, rolled up at one end, and from thence called a single-headed bandage; those on the other hand are called double-headed, which are rolled up at both ends, as N°. 1.

Next to these come those bandages, which, though consisting of one entire piece, are divided at both ends almost as far as the middle, and called by the surgeons four-headed bandages, as N°. 4. The bandage, N°. 5. is somewhat narrower and shorter; being divided only at one end, and perforated at the other; this is used in dressings applied to the penis, or a finger. N°. 6. represents a double headed bandage, divided about the middle, and called the uniting bandage, as serving to unite wounds made lengthwise. N°. 7. is the scapular bandage, the chief use of which consists in

this, that in dressing wounds of the thorax or abdomen, it is capable of supporting another wider bandage bound round the breast or belly. N°. 8. is a compound bandage, called the T bandage, from its resemblance to that letter; its upper part is bound round the belly, and the lower part, passing under the body between the thighs, is tied to the upper one upon the back. This bandage is used for securing such dressings as shall be thought proper to be applied to the anus, or parts of generation.

BANDALEER, or **BANDELEER**, in military affairs, a large leathern belt, thrown over the right shoulder, and hanging under the left arm; worn by the antient musqueteers, both for the sustaining of their fire-arms, and for the carriage of their musquet-charges, which being put up in little wooden cases, coated with leather, were hung, to the number of twelve, to each bandeler.

BANDELET, or **BANDLET**, in architecture, any little band, or flat moulding, as that which crowns the doric architrave.

BANDER-CONGO, a sea-port town on the eastern side of the persian gulph: east longitude 54° 50' and north lat. 27°.

BANDERET, a general, or one of the commanders in chief of the forces.

This appellation is given to the principal commanders of the troops of the canton of Bern in Switzerland, where there are four banderets, who command all the forces of that canton.

BANDEROLL, a little flag, in form of a guidon, extended more in length than breadth, used to be hung out on the masts of vessels, &c.

BANDITTI, a term peculiarly denoting companies of highwaymen, common in Italy and France; but sometimes also used, in a more general sense, for robbers, pirates, out-lawed persons, ruffians, &c.

BANDLET, or **BANDELET**. See the article **BANDELET**.

BANDORA, the capital of the island of Salsé, or Canorin, on the west coast of the hither India: east longitude 72° 30' and north latitude 19°.

BANDORA is also the name of an antient musical instrument, with strings, resembling a lute. See the article **LUTE**.

BANDY LEGGED *persons* are such whose feet are distorted, turning either inward or outward, on either side; arising from some defect in the birth, or from the imprudence of the nurse, endeavouring to make

make the child stand or walk before his legs were strong enough to support the rest of his body.

Besides the use of emollients, it is proper to apply a kind of strong boots proportioned to the limb.

BANGLE EARS, an imperfection in a horse, remedied in the following manner. Place his ears in such a manner as you would have them stand; bind them with two little boards so fast that they cannot stir, and then clip away all the empty wrinkled skin close by the head.

BANGOR, a city of Carnarvonshire, in north Wales: west longitude $4^{\circ} 15'$, and north latitude $53^{\circ} 20'$.

It is a bishop's see, and situated on the seaside, about thirty miles west of St. Asaph.

BANIANS, a religious sect in the empire of the mogul, who believe a metempsychosis, and will therefore eat no living creature, nor even kill noxious animals; but endeavour to release them, when in the hands of others. See **SHASTER**.

The banians are said to be so fearful of having communication with other nations, that they break their cups, if one of a different religion has drank out of them, or even touched them. 'Tis said, that if they happen to touch one another, they purify and wash themselves before they eat, or enter their own houses. They carry, hanging to their necks, a stone, called tamberane, as big as an egg, and perforated in the middle, through which run three strings: this stone, they say, represents their great god, and upon that account, they have great respect shewn them by all the indians.

BANJAR, a river in the island of Borneo, in the mouth of which is a floating island, where the east-india company have a factory.

BANISHMENT, a kind of punishment, whereby the guilty person is obliged to leave the realm.

There are two kinds of banishment; one voluntary and upon oath, the other upon compulsion for some crime or offence: the former, properly called abjuration, is now ceased; the latter is chiefly enjoined by judgment of parliament, or other courts of justice.

By *magna charta*, none shall be outlawed, or banished his country, but by lawful judgment of his peers, according to the law of the land, 9 Hen. III. 29.

BANK, in commerce, a common repository, where many persons agree to keep their money, to be always ready at their

call or direction: or certain societies or communities, who take the charge of other people's money, either to improve it, or keep it secure.

There are banks of various kinds, and different in the nature of their constitutions and establishments: some are instituted wholly on the public account, and put under the direction of the magistrates, as the famous bank of Amsterdam, where the money deposited therein shall be always kept for the use of the proprietors, and shall never be let out for profit or advantage.

Payments made by assignments upon this bank, are valued from 3 to 6 per cent. above the payment of the money in specie, arising from an opinion that the proprietors entertain of the equity of its administration; for judging themselves secure, that their money lies always ready at hand, they seldom draw out large sums, but make their mutual payments by transferring the sums from one man's account to another.

A second sort of bank, is such as consists of a company of monied men, who being duly established, and incorporated by the laws of their country, agree to deposit a considerable fund, or joint stock, to be employed for the use of the society; as lending money upon good security, buying and selling bullion, gold and silver, discounting bills of exchange, &c.

A third sort, is the banks of private men, or partnerships, who deal in the same way as the former, upon their own single stock or credit; and such are the Lombard-street, or other bankers, as they are called. There are public banks established in most of the trading cities of Europe, as in Venice, London, Paris, Amsterdam, Hamburgh, &c. The bank of Venice is the most antient. It is established by a solemn edict of the commonwealth, which enacts, that all payments of wholesale merchandize, or letters of exchange, shall be in bank notes; that all debtors shall be obliged to carry their money to the bank, and all creditors receive their money from the bank; so that payments are performed by a simple transfer from the one person to the other. In matters of retail, effective payments are sometimes made, which do not diminish, but rather augment the stock, by reason of the liberty of withdrawing their money at pleasure, &c.

BANK, in natural history, denotes an elevation of the ground, or bottom of the sea,

sea, so as sometimes to surmount the surface of the water, or, at least, to leave the water so shallow, as usually not to allow a vessel to remain afloat over it. In this sense, bank amounts to much the same with flat, shoal, &c. There are banks of sand, and others of stone, called also shelves, or rocks. In the north sea, they also speak of banks of ice, which are large pieces of that matter floating.

A long narrow bank is sometimes called a *rib*.

The bank absolutely so called, or the main bank, or great bank, denotes that of Newfoundland, the scene of the cod-fishery.

It is called the great bank, not only by reason of its vast extent, being, according to the English computation, two hundred miles long, and, according to the French, one hundred leagues, or three hundred miles; but also on account of several lesser banks near it, where cod are also caught.

BANK, in vessels which go with oars, is used for the bench where the rowers are seated; popularly called, by our seamen, the *thaught*.

In this sense, we read of banks of gallies, of galeasses, of galliottes, of brigantines, and the like.

The Venetian gondolas have no banks; for the watermen row standing.

The common gallies have twenty-five banks, that is, twenty-five on each side, in all fifty banks, with one oar to each bank, and four or five men to each oar. The galeasses have thirty two banks on a side, and six or seven rowers to a bank.

BANK also denotes an elevation of earth, stones, stakes, or other materials, in form of a wall, or caufeway, to stop the waters, and prevent inundations.

BANK is also used, in several games, for the stock or fund of him who undertakes the game.

BANK at Basset, a sum of money laid down by the taitleur, before the gamesters, to answer all the winning cards that shall turn up in his course of dealing.

BANKAFALET, a game at cards, which being cut into as many heaps as there are players, every man lays as much money on his own card as he pleases; and the dealer wins or loses as many as his card is superior or inferior to those of the other gamesters.

The best card is the ace of diamonds; the next to it, the ace of hearts; then the ace

of clubs; and, lastly, the ace of spades: and so of the rest of these suits in order, according to their degree.

The cheat lies, in securing an ace, or any other sure winning card; which are somehow marked, that the sharper may know them.

BANKER, a person who traffics and negotiates in money; who receives and remits money from place to place, by commission from correspondents, or by means of bills or letters of exchange.

In France, it is not requisite that a man be a merchant, in order to carry on banking; for that trade is permitted to all sorts of persons, even to foreigners, so far as relates to foreign banking, or dealing by exchange.

In Italy, the trade of a banker does not derogate from nobility, which is the reason why most of the younger sons of the quality apply themselves to that employment, in order to support their families. The monied goldsmiths, in the reign of king Charles the second, first acquired this name. See the article **BANK**.

The Romans had two sorts of bankers, whose office was much more extensive than that of the bankers among us; theirs being that of public affairs, in whom were united the functions of a broker, agent, banker, and notary, managing the exchange, taking in money, assisting in buying and selling, and drawing the writings necessary on all these occasions.

BANKER, in bricklaying, a piece of timber whereon they cut the bricks.

The banker is six feet long, or more, according to the number of men to work at it, and nine or ten inches square; it is to be laid on two piers of timber, three feet high from the floor they stand on.

BANKING, the making of banks to oppose the force of the sea, rivers, or the like, and securing the land from being overflowed thereby.

BANKING is more particularly applied to the keeping a bank, or the employment of a banker.

BANKISH, a province of the mogul's dominions, in the north part of the hither India, lying south-west of the province of Cassimere.

BANKRUPT, any person, either man or woman, that by trading hath gotten other persons goods into his or her hands, and concealeth himself from his creditors. It is not buying or selling of lands, but of personal things, that will make a person

son liable to be a bankrupt; nor is it buying only, nor selling only, but both. Every one that gets his livelihood by buying and selling in trade, may fall under a state of bankruptcy upon his failing: but adventurers in the East-India company, members of the bank of England, or of the South-sea company, shall not be adjudged bankrupts, in respect of their stock: also no person concerned as receiver-general of the taxes, &c. shall be a bankrupt. If a merchant gives over trade, and some years after becomes not solvent for money owed while a merchant, he is a bankrupt; but if for new debts, or old debts continued on new security, it is otherwise.

BANKRUPTCY, the failure, absconding, and relinquishing of traffic in a merchant, a banker, or any other trader. See the article **BANKRUPT**.

The French make this difference between a bankruptcy and a failure, that the first is supposed voluntary and fraudulent, and the latter constrained and necessary, by means of accidents, &c. A failing, breaking, or stopping of payment, diminishes the merchant's credit, but does not note him with infamy, as bankruptcy does.

When a merchant fails to appear at the exchange, without apparent reason, it is called a failure of presence; the bankruptcy becomes open from the day he absconds, or the seal is affixed to his effects.

Commission of BANKRUPTCY. See the article **COMMISSION**.

BANN, or **BAN**, *bannum*, or *bannus*, in the feudal law, a solemn proclamation, or publication of any thing. Hence the custom of asking, or bans, before marriage. See the article **MARRIAGE**.

BANN, in military affairs, a proclamation made in the army, by beat of drum, sound of trumpet, &c. requiring the strict observance of discipline, either for the declaring a new officer, or punishing an offender.

BANN of the empire, an imperial proscription, being a judicial punishment, where-with such as are accessory to disturbing the public peace, are judged unworthy of the immunities and protection of the empire, and are out-lawed or banished, &c.

BANNER denotes either a square flag, or the principal standard belonging to a prince.

We find a multiplicity of opinions concerning the etymology of the word banner; some deriving it from the latin

bandum, a band or flag; others, from the word *bann*, to summons the vassals to appear in arms; others, again, from the german *ban*, a field or tenement, because landed men alone were allowed a banner; and, finally, there are some who think it is a corruption of *panniere*, from *pannus*, cloth, because banners were originally made of cloth.

BANNERET, an antient order of knights, or feudal lords, who possessing several large fees, led their vassals to battle under their own flag, when summoned thereto by the king.

This order is certainly most honourable, as it never was conferred but upon some heroic action performed in the field. Antiently there being but two kinds of knights, great and little, the first were called bannerets, the second bachelors; the first composed the upper, the second the middle nobility.

In France, they are said to transmit their degree to their posterity; but in England, it dies with them. We have had none of this order created in England, since the time of king Charles the first; so that this order is now become extinct among us.

The form of the banneret's creation was this; on a day of battle, the candidate presented his flag to the king, or general, who cutting off the train, or skirt thereof, and making it a square, returned it again; the proper banner of bannerets, who, from hence, are sometimes called knights of the square flag.

BANNISTERIA, in botany, a distinct genus of plants, according to Linnæus; but accounted only a species of *clematis* by other botanists.

It belongs to the *decandria-trigynia* class; its flower consists of five very large, orbicular petals; and its fruit is composed of three unilocular capsules, running into long ææ.

BANNIMUS, the form of expulsion of any member from the university of Oxford, by affixing the sentence up in some public place, as a denunciation of it.

BANNOCK, a kind of oat-cake, baked in the embers, or on a stone placed before the fire; it is common in the northern parts of the kingdom.

BANQUET, a feast or entertainment, where people regale themselves with pleasant foods, or fruits. It signifies also a little bank, a raised way.

BANQUET, in the manege, that small part of the branch of a bridle that is under the

the eye, which being rounded like a small rod, gathers and joins the extremities of the bitt to the branch, and that in such a manner, that the banquet is not seen, but covered by the cope, or that part of the bitt that is next the branch.

BANQUET-LINE, an imaginary line drawn, in making a bitt, along the banquet, and prolonged up or down, to adjust the designed force or weakness of the branch, in order to make it stiff or easy.

BANQUET, or **BANQUETTE**, in fortification, a little foot bank, or elevation of earth, forming a path, which runs along the inside of a parapet, upon which the musqueteers get up, in order to discover the counterscarp, or to fire on the enemy in the moat, or in the covered-way.

BANQUETTING-ROOM, or **HOUSE**. The antient Romans supped in the atrium, or vestibule, of their houses; but, in after-times, magnificent saloons, or banquetting houses, were built, for the more commodious and splendid entertainment of their guests. Lucullus had several of these, each distinguished by the name of some god; and there was a particular rate of expence appropriated to each. Plutarch relates with what magnificence he entertained Cicero and Pompey, who went with design to surprize him, by telling only a slave who waited, that the cloth should be laid in the Apollo. The emperor Claudius, among others, had a splendid banquetting-room, named Mercury. But every thing of this kind was outdone by the lustre of that celebrated banquetting-house of Nero, called *domus aurea*; which, by the circular motion of its partitions, and ceilings, imitated the revolution of the heavens, and represented the different seasons of the year, which changed at every service, and showered down flowers, essences, and perfumes, on the guests. Heliogabalus, nevertheless, is said to have improved as much upon Nero, as the latter had done on Lucullus.

BANSTICKLE, in ichthyology, the same with the gasterosteus, or prickle back. See the article **GASTEROSTEOUS**.

BANTAM, the capital of a large kingdom, and a port town of great trade, situated on the north-west coast of the island of Java, in 105° east longitude, and 6° 30' south latitude.

BANTAM-WORK, a kind of painted or carved work, resembling that of japan, only more gaudy.

Bantam-work is of less value among

connoisseurs, though sometimes preferred, by the unskilful, to the true japan-work. Formerly it was in more use, and esteem, than at present, and the imitation of it much practised by our japanners.

There are two sorts of Bantam, as well as of japan-work; as, in the latter, some are flat, lying even with the black, and others high or embossed, so, in bantam-work, some is flat, and others in-cut, or carved into the wood, as we find in many large screens; with this difference, that the japan artists work chiefly in gold and other metals, and the bantam generally in colours, with a small sprinkling of gold here and there.

For the flat bantam-work, it is done in colours, mixed with gum-water, proper for the thing designed to be imitated. For the carved, or in-cut kind, the method of performing it is thus described by an ingenious artist. 1. The wood is to be primed with whiting and size, so often till the primer lie near a quarter of an inch thick; then it is to be water-plained, *i. e.* rubbed with a fine wet cloth, and, some time after, brushed very smooth, the blacks laid on, varnished up with a good body, and polished well, though with a gentle hand. This done, the design is to be traced out with vermillion, and gum-water, exactly in the manner wherein it is intended to be cut; the figures, trees, buildings, &c. in their due proportions. Then the graver is applied, with other tools of proper shapes, differing according to the workman's fancy. With these he cuts deep or shallow, as is found convenient, but never deeper than the whiting lies; the wood being never to feel the edge of the instrument. Lines, or parts of the black, are still to be left, for the draperies and other-out-lines, and for the distinction of one thing from another; the rule being to cut where the white is, and leave the black untouched. The carving being finished, they take to the pencil, with which the colours are laid into the cut-work. After this, the gold is to be laid in these places which the design requires; for which purpose, a strong, thick gum-arabic water is taken, and laid with a pencil on the work; and, while this remains wet, leaf-gold is cut with a sharp smooth-edged knife, in little pieces, shaped to the bigness and figure of the places where they are to be laid. These being taken up with a little cotton, they dab them with the same close to the gum-water, which affords a rich lustre.

Iustre. The work thus finished, they clear up the black with oil, taking care not to touch the colours. The European workmen, in lieu of leaf-gold, ordinarily use brass-dust, which is less bright and beautiful.

BANTRY, a town of Ireland, situated on a bay of the same name, in the county of Cork, and province of Munster: west longitude $9^{\circ} 20'$, north latitude $51^{\circ} 30'$.

BAPAUME, a fortified town of the french Netherlands, about twelve miles south-east of Arras: east longitude 3° , north latitude $50^{\circ} 10'$.

BAPTISM, in matters of religion, the ceremony of washing; or a sacrament, by which a person is initiated into the christian church.

Grotius is of opinion, that baptism had its original from the time of the deluge, after which he thinks it was instituted in memory of the world's having been purged by water: and some think, that it was added to circumcision, soon after the samaritan schism, as a mark of distinction to the orthodox Jews. However this may be, it is generally agreed on, that the Jews practised this ceremony on their protelytes after circumcision, long before the coming of Jesus Christ. For the matter of baptism, any natural water is held sufficient, but nothing else is allowed. In the primitive times, the ceremony was performed by immersion, as it is to this day in the oriental churches, agreeably to the original signification of the word, which means dipping, or plunging. The practice of the western churches is to sprinkle the water upon the head or the face of the person to be baptized, except the church of Milan, in whose ritual it is ordered that the head of the infant be plunged three times into the water. A trine immersion was used first, and continued for a long time: this was either to signify the three days our Saviour lay in the grave, or the three persons in the trinity: but it was afterwards laid aside, because the arians used it. There are abundance of ceremonies delivered by ecclesiastical writers, as used in baptism, which are now laid aside, tho' there are not wanting those who contend for their re-admission. It appears that in the primitive times, none were baptized but adults, though several learned men contend, that infants were admitted to this sacrament. Formerly there were great disputes whether the baptism of heretics was valid; the general opi-

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nion ran for the affirmative, provided it was conferred in the name of the trinity; and therefore they allowed that given by laymen, or even by women, in case of necessity.

Divines distinguish three sorts of baptism, 1. Water-baptism, or that already mentioned. 2. Baptism of fire, which is the perfect love of God, joined to an earnest desire to be baptized, called also the baptism of the Holy Ghost. 3. Baptism of blood, which is the martyrdom of a catechumen.

BAPTISM, in the sea-language, a ceremony in long voyages on board merchant ships, practised both on persons and vessels, who pass the tropic, or line, for the first time. The baptizing the vessels is simple, and consists only in washing them throughout with sea-water; that of the passengers is more mysterious. The oldest of the crew, that has past the tropic or line, comes with his face blacked, a grotesque cap on his head, and some sea-book in his hand, followed by the rest of the seamen dressed like himself, each having some kitchen-utensil in his hand, with drums beating. He places himself on a seat on the deck, at the foot of the main-mast. At the tribunal of this mock magistrate, each passenger not yet initiated, swears he will take care the same ceremony be observed, whenever he is in the like circumstances: then by giving a little money by way of gratification, he is discharged with a little sprinkling of water, otherwise he is heartily drenched with streams of water, poured upon him; and the ship-boys are inclosed in a cage, and ducked at discretion.

The sea-men, on the baptizing a ship, pretend to a right of cutting off the beak-head, unless redeemed by the captain.

BAPTISMAL, something belonging to baptism; thus, we say, baptismal vow, fonts, presents, &c.

BAPTISTS, in church-history, the name by which the anabaptists love to distinguish themselves. See **ANABAPTISTS**.

BAPTISTERY, in ecclesiastical writers, a place in which the ceremony of baptism is performed. In the antient church, it was one of the *exedrae* or buildings, distinct from the church itself, and consisted of a porch or anti-room, where the persons to be baptized made their confession of faith; and an inner room where the ceremony of baptism was performed. Thus it continued till the sixth century, when the baptisteries began to be taken

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into

into the church-porch; and afterwards into the church itself. It is an observation of some learned men, that antiently there was but one baptistery in a city, and that at the bishop's church; and that afterwards they were set up in parish-churches, with the special allowance however of the bishop.

BAR, in a general sense, denotes a slender piece of wood, or iron, for keeping things close together.

BAR, in courts of justice, an inclosure made with a strong partition of timber, where the council are placed to plead causes. It is also applied to the benches, where the lawyers or advocates are seated, because antiently there was a bar to separate the pleaders from the attornies and others. Hence our lawyers, who are called to the bar, or licenced to plead, are termed barristers, an appellation equivalent to licentiate in other countries.

BAR, in law, a plea of a defendant, which is said to be sufficient to destroy the plaintiff's action. It is divided into bar special, bar to common intendment, bar temporal, and bar perpetual. Bar special, falls out upon some special circumstances of the case in question, as where an executor being sued for his testator's debt, pleads that he had no goods in his hands at the day on which the writ was sued out. Bar to common intendment, is a general bar, which commonly disables the plaintiff's declaration. Bar temporary is such as is good for the present, but may afterwards fail; and bar perpetual is that which overthrows the plaintiff's action for ever. In personal actions, once barred, and ever so, is the general rule, but it is intended, where a bar is to the right of the cause, not where a wrong action is brought.

BAR, in heraldry, an ordinary in form of the fesse, but much less.

It differs from the fesse only in its narrowness, and in this, that the bar may be placed in any part of the field, whereas the fesse is confined to a single place. See plate XXVI. fig. 3.

Bar-gemel, that is a double bar, called by the French *jumelles*, and by the latin writers *jugarie fasciolar*, and *justitie bijuges*, is a diminutive of the fesse. See plate XXVI. fig. 4. and the article FESSE.

BAR, in the manege, the highest part of that place of a horse's mouth, situated between the grinders and tushes; so that the part of the mouth, which lies under, and at the side of the bars, retains the name of the gum. A horse with sensible

bars has a fine light mouth, with an even and firm appui. See the article APPUI. A horse with round hard bars must have a bitt that will rouze him, that is, one that does not bend, to give room to the tongue in the middle.

These are very desperate bars, which have been broke and cicatrized, and by that means become insensible. A horse with a fine mouth has his bars sharp, and edged like those of a barbary horse.

BAR, in music, a stroke drawn perpendicularly across the lines of a piece of music, including between each two, a certain quantity or measure of time, which is various as the time of the music is either triple or common. In common time, between each two bars is included the measure of four crotchets; in triple, three. The principal use of bars is to regulate the beating of time, in a concert. See the articles TIME and MEASURE.

BAR, in hydrography, denotes a bank of sand, or other matter, whereby the mouth of a river is in a manner choaked up.

The term bar is also used for the strong beam, wherewith the entrance of an harbour is secured: this is more commonly called boom.

BAR, **BARRA**, in commerce. See **BARRA**.

BAR, or **BAR-LE-DUC**, in geography, a dutchy belonging to France, lying north-west of Lorrain, on both sides the river Maese, whereof Bar-le-duc is the principal town: east longitude $5^{\circ} 15'$, and north latitude $48^{\circ} 40'$.

BAR is also a town of Podolia, in Poland, situated in 28° east longitude, and $48^{\circ} 20'$ north latitude.

BAR-MASTER, among miners, the person who keeps the gage, or dish for measuring the ore.

BAR-SHOT. See the article SHOT.

BARACKS, or **BARRACKS**. See the article **BARRACKS**.

BARACOA, a town on the north-east part of the island of Cuba in north America, in 76° west long. and 21° north lat.

BARALIPTON, among logicians, a term denoting the first indirect mode of the first figure of syllogism. A syllogism in baralipon, is when the two first propositions are general, and the third particular, the middle term being the subject in the first proposition, and the predicate in the second. Thus,

BA Every evil ought to be feared :

RA Every violent passion is an evil ;

LIP Therefore something that ought to be feared is a violent passion.

BARALLOTS, *baraletti*, in church-history,

ry, a sect of heretics at Bologna in Italy, who had all things in common, even their wives and children.

Their facility in complying with all manner of debauchery, made them get the name *obedientes*, compliers.

BARANCA, a port-town of Terra Firma, in south America; situated about thirty miles up the river Grande, in 75° 30' west longit. and 11° north latit.

BARANGI, officers among the Greeks of the lower Empire. Cujas calls them in latin *proteflores*, and others give them the name of *securigeri*. It was their business to keep the keys of the city gates, where the emperor resided.

Codinus, and others believe they were englishmen, and that they came from an island called Thule.

BARANWAHR, a town of lower Hungary, not far from the Danube, in 20° east longitude, and 46° 20' north latitude.

BARAPICKLET, bread made of fine flour, and kneaded up with barm, which makes it very light and spongy. Its form is round, about a hand breadth.

BARATHRUM, in antiquity, a deep dark pit at Athens, into which condemned persons were cast headlong. It had sharp spikes at the top, that no man might escape out, and others at the bottom to pierce and torment such as were cast in.

BARB, or **BARBE**, in commerce. See the article **BARBE**.

BARBA, **BEARD**, in botany, a word used in composition with others for several plants: thus, *barba aron* denotes the sedum, or common house-leek; *barba capræ*, the aruncus of Linnæus. See the articles **SEDUM** and **ARUNCUS**.

BARBACAN, or **BARBICAN**, an outer defence, or fortification to a city or castle, used especially as a fence to the city, or walls; also, an aperture made in the walls of a fortress, to fire through upon the enemy.

BARBACAN is also used to denote a fort at the entrance of a bridge, or the outlet of a city, having a double wall with towers.

BARBACAN, in architecture, a canal, or opening left in the wall, for water to come in and go out, when buildings are erected in places liable to be overflowed, or to drain off the water from a terras, or the like.

BARBADOES, one of the british caribbee islands, lying eastward of all the rest, in 59° 30' west longit. and 13° north lat. being only twenty-five miles in length, and about fifteen in breadth.

BARBADOES-TAR, a mineral fluid of the

nature of the thicker fluid bitumens, of a nauseous, bitterish taste, very strong and disagreeable smell, found in many parts of America trickling down the sides of the mountains, and sometimes floating on the surface of the waters. It has been greatly recommended in coughs, and other disorders of the breast and lungs.

BARBARA, among logicians, the first mode of the first figure of syllogisms.

A syllogism in barbara, is one whereof all the propositions are universal, and affirmative; the middle term being the subject of the first proposition, and attribute in the second. For example,

BAR Every wicked man is miserable;

BA All tyrants are wicked men;

RA Therefore all tyrants are miserable.

BARBARIAN, a name given by the ancient Greeks and Romans, to all who were not of their own country, or were not instituted in their language, manners and customs.

In this sense the word signified with them no more than foreigner, not signifying, as among us, a wild, rude, or uncivilized person.

BARBARISM, in a general sense, a rudeness of language or behaviour.

BARBARISM, in grammar, an offence against the purity of stile or language; or an ungrammatical way of speaking or writing, or contrary to the true idiom of any particular language.

BARBARY, a large tract of Africa, extending along the Mediterranean sea, from 2° west longitude to 30° east longitude, that is, from the river Mulvia, which separates it from Morocco to Egypt.

It comprehends the countries of Algiers, Tunis, Tripoli, and Barca.

BARBE, in commerce, a barbary horse; greatly esteemed for its beauty, strength, and swiftness. Barbies are commonly of a slim shape, and have very thin legs; they retain their vigour to the last, and are therefore much prized for stallions. They are used both for the saddle and the coach. It is reported that they will outrun an ostrich, and that some of them are sold for a thousand ducats, or one hundred camels; they are fed with camel's milk sparingly, and their genealogy is carefully preserved.

BARBE, in the military art: to fire in barbe, means to fire the cannon over the parapet, instead of firing through the embrasures; in which case the parapet must not be above three feet and a half high.

BARBE, or **BARDE**, is an old word, denoting

noting the armour of the horses of the ancient knights and soldiers, who were accoutered at all points. It is said to be an armour of iron and leather, where-with the neck, breast and shoulders of the horse were covered.

BARBE, in geography, a town of new Biscay in Mexico; situated in 110° west longitude, and 26° north latitude.

BARBED, in a general sense, bearded like a fish-hook, set with barbes, also shaved or trimmed.

BARBED, and **CRESTED**, in heraldry, an appellation given to the combs and gills of a cock, when particularized for being of a different tincture from the body.

A barbed cross, is a cross the extremities whereof are like the barbed irons used for striking of fish. See plate XXVI. fig. 1.

BARBEL, *barbus*, in ichthyology, a species of cyprinus, with the upper jaw longest, four cirri or beards, and seven bones in the pinna ani.

BARBELICOTÆ, in church-history, a sect of gnostics, who affirmed that an immortal Eon had commerce with a virgin called Barbeloth, to whom he granted successively the gift of prophecy, incorruptibility, and eternal life.

Their ceremonies were not less abominable than their doctrine absurd.

BARBER, one who makes a trade of shaving, or trimming, the beards of other men, for money.

BARBERINO, a town of Tuscany in Italy, situated upon the river Siera, in 11° east longitude, and $44^{\circ} 5'$ north latitude.

BARBERRY-BUSH, *BERBERIS*, in botany. See the article *BERBERIS*.

BARBICAN, or **BARBACAN**. See the article *BARBACAN*.

BARBLES, or **BARBS**, in farriery, the knots or superfluous flesh, that grow up in the channels of a horse's mouth, that is, in the intervals that separate the bars, and lie under the tongue.

BARBUDA, one of the british caribbee islands, about twenty miles long, and twelve broad, in 61° west longitude, and 18° north latitude.

BARBUS, the *BARBEL*. See *BARBEL*.

BARCA, a country lying on the Mediterranean, between Tripoli and Egypt; a barren desert for the most part.

BARCALON, an appellation given to the prime minister of the king of Siam. The barcalon has in his department every thing relating to commerce, both at home and abroad. He is likewise super-intendant of the king's magazines.

BARCELONA, the chief city of Catal-

nia, in Spain. It is situated in a large plain along the shore of the Mediterranean; being divided into the new and old town, separated from each other by a wall and ditch: east longitude 2° , and north latitude $41^{\circ} 20'$.

BARCELONETTA, a town of Piedmont, now subject to France: east longitude $6^{\circ} 40'$, and north latitude $44^{\circ} 35'$.

BARCELOR, or *BASSELOR*, a port-town on the coast of Malabar, in $74^{\circ} 15'$ east longitude, and north latitude $13^{\circ} 30'$.

BARCELOS, a town of the province of Entre-Minho-Duero, in Portugal, about thirty miles north of Porto, in $9^{\circ} 15'$ west longitude, and $41^{\circ} 20'$ north latitude.

BARD, a poet among the antient Gauls and Britons, who celebrated the praises of heroes, with a view to inculcate virtue, and sometimes to terminate a difference between two armies at the point of engagement. It is disputed wherein the bards differed from the druids; some pretend that these were the priests and philosophers of the nation, and that those were only the poets and historians; but it is more probable that druid was a general word, comprehending the priests, the judges, the instructors of youth, and the bards or poets. See the article *DRUID*.

The bards were not only the poets but the genealogists, biographers, and historians of those countries and ages. The genealogical sonnets of the irish bards are still the chief foundations of the antient history of Ireland. It was customary for the bards to sing these compositions in the presence of their nobles, and at their chief festivals and solemnities. In the Highlands of Scotland there are bards still in being, and considerable remains of many of the compositions of the old british bards still preserved; but the most genuine, intire, and valuable remains of the works of the antient bards, and perhaps the noblest specimen of uncultivated genius, if not the most sublime fragments of antient poetry now extant, are the poems of Ossian the son of Fingal, a king of the Highlands, who flourished in the second or third century, lately collected by Mr. Mac-Phereson, and by him translated from the Erse or Gallic language into English.

BARDELLE, in the manege, a saddle made in the form of a great saddle, but only of cloth stuffed with straw, and tied tight down with packthread, without either leather, wood, or iron. In Italy they trot their colts with such saddles.

BAR-

BARDESANISTS, in church-history, christian heretics of the second century, who maintained that the devil was a self-existent independent being; that Jesus Christ was not born of a woman, but brought his body with him from heaven; and denied the resurrection of the body.

BARDEWICK, a town of lower Saxony in Germany, about seven miles north of Lunenburg.

It is subject to the elector of Hanover, and situated in $10^{\circ} 6'$ east longitude, and $53^{\circ} 40'$ north latitude.

BARDS, **BARDI**. See the article **BARD**.

BARDS, in the art of cookery, broad slices of bacon, with which pullets, capons, pigeons, &c. are sometimes covered, before they are roasted, baked, or otherwise dressed.

BARDT, a port-town of Pomerania, in Germany: it is subject to Sweden, and situated in $13^{\circ} 10'$ east longitude, and $54^{\circ} 20'$ north latitude.

BARE, in a general sense, denotes something not cloathed or covered: thus, we say, the bare-footed carmelites, trinitarians, &c. See **CARMELITES**.

BAR-FEE, a fee of twenty-pence which every prisoner acquitted of felony, pays to the gaoler.

BARFLEUR, a town and cape of Normandy, in France, about twelve miles east of Cherbourg: west longitude $1^{\circ} 15'$ and north latitude $49^{\circ} 47'$.

BARGAIN, in commerce, a contract or agreement in buying and selling. Hence, to buy a good bargain is to buy cheap. Bargain is also an agreement to give a certain price, and there are three things requisite to make it complete and perfect.

1. The merchandize sold. 2. The price. 3. The mutual agreement or consent.

The merchandize sold ought to be certain, the price of the thing sold should be paid in current money, otherwise it would be an exchange; and the consent ought to be equally free, on both sides, from error and violence. If then there happens to be an error in the substance of the thing bought, it makes the bargain void; but if it lies only in the quality of the thing sold, it does not dissolve the bargain, provided there be no voluntary fraud on the side of the seller. Thus, if I design to buy pewter, and instead of that, the person sells me lead, the sale cannot stand good, because I was imposed upon in the very substance of the thing I wanted to buy. But if I designed to buy a clock that went true, and it does not

prove so, the bargain ought to stand, because I was deceived in the qualities only of the thing sold to me.

A bargain and sale of lands, &c. in fee, must, according to our law, be in writing indented and inrolled, either in one of the courts at Westminster, or in the county where the lands lie, before the custos rotulorum, and justices of peace. A warrant and covenant may be inserted in a bargain and sale, but the deed is good without any such addition; and if it be made for money and natural affection, the estate will pass, though you do not inrol it.

BARGE, in naval affairs, a boat of state and pleasure, adorned with various ornaments, having bales and tilts, and seats covered with cushions and carpets, and benches for many oars; as a company's barge, an admiral's barge, &c. It is also the name of a flat-bottomed vessel employed for carrying goods in a navigable river, as those upon the river Thames, called west country barges.

BARGE-COUPLES, in architecture, a beam morticed into another, to strengthen the building.

BARGE-COURSE, with bricklayers, a term used for that part of the tiling which projects over without the principal rafters, in all sorts of buildings, where there is either a gable or a kirken-head.

BARILLIA, a kind of spanish potash, used in the glass trade.

BARING of trees, in agriculture, the taking away some of the earth about the roots, that the winter-rain and snow-water may penetrate further into the roots. This is frequently practised in autumn.

BARK, *cortex*, in the anatomy of plants, the exterior part of trees, corresponding to the skin of an animal.

The bark may be divided into the outward skin, or cuticle; and the inner or cortical substance. The outward skin, or cuticle, seems to derive its origin from the inner or cortical substance, and to be nothing more than the old bark dried and shrivelled up, being supplanted yearly by a new one, after the same manner as a snake casts her skin. It is composed of little bladders, or vesicles horizontally placed, so as to form a ring; among which are also intermixed, more or less, several parallel woody fibres, or sap vessels. The inner substance consists, 1. Of several enfoldments of woody fibres, interwoven in the manner of a net, and wrapping over each other like the coats

of an onion. 2. Of a great many little bladders, or vesicles, sometimes of an oval, and sometimes an angular figure, which fill up the spaces between the said fibres; and are placed, as it were, in lines horizontally towards the wood. And, 3. Of its own peculiar vessels, which contain the proper and specific juice of the plant. The woody fibres are certain tubular bodies, hollow for the reception of their proper fluids; and are composed of a great many smaller concave fibres, disposed in a quadrangular figure, and communicating one with another. These vessels do not run in right-lines or parallels; but, for the most part, are gathered together, as it were, in little bundles; which, when extended, or separated from each other, form a kind of net, or reticular coat, with which they embrace the wood. Dr. Grew calls them the lymphatic ducts, from their containing an aqueous, limpid, and almost insipid fluid. The bladders, or vesicles, which are full of liquor they receive from the woody fibres, are, for the most part, placed horizontally in right-lines, which run from the cuticle towards the wood, and are called, by Dr. Grew, the parenchyma of the bark, as being analogous to the parenchyma in the bowels of animals. Into these transverse vesicles, the ascending fluid, which may be called the chyle of the tree, is deposited; where having remained for some time, and being intimately mixed with the former juice, it is at length exalted into the nature of an aliment, and from thence distributed to the other parts of the plant. And as there is great plenty of this kind of fluid in these little bladders, or vesicles, it is no wonder, that the bark of a tree should supply the fire with a stronger and more abundant pabulum, than any other part.

The antients wrote their books on bark, especially of the ash and lime-tree, not on the exterior, but on the inner and finer bark, called philyra.

There are a great many kinds of barks, in use in the several arts: some in agriculture, and in tanning leather, as the oak-bark; some in physic, as the *quinquina*, or jesuits bark, mace, &c. others in dying, as the bark of alder and walnut-trees; others in spicery, as cinnamon, cassia lignea, &c. and others for divers uses, as the bark of the cork-tree, linden-tree and birch-tree. In the East-Indies, they spin the bark of a certain tree into a stuff. They likewise mix it with silk in

manufacturing the stuffs which go under the names of *nillacs*, *cherquemolles* and *fatalonges*.

BARK, or **JESUIT'S BARK**, is a name given by way of eminence to the quinquina. See the article **QUINQUINA**.

BARK, in navigation, a little vessel with two or three triangular sails; but, according to Guillet, it is a vessel with three masts, *viz.* a main-mast, fore-mast, and mizen-mast. It carries about two hundred tons.

BARK LONGUE, or **BARCA LONGA**, a small low sharp-built, but very long vessel without a deck. It goes with sails and oars, and is very common in Spain.

BARKAN, a town of Hungary, remarkable for two victories, which the christians obtained there over the Turks, the one in 1664, and the other in 1683.

BARKARY, a tan-house, or place for keeping bark.

BARK-BINDING, a distemper incident to trees, cured by slitting the bark, or cutting along the grain.

BARK-GALLING, is when trees are galled with thorns, &c. It is cured by binding clay on the galled places.

BARKHAMSTEAD, a market-town in the west part of Hertfordshire, about eighteen miles west of Hertford, in 40' west longitude, and 51° 40' north latit.

BARKING, a fishing town of Essex, situated on the river Thames, about eight miles east of London.

BARKING of trees, the peeling off the rind or bark.

This must be done, in our climate, in the month of May, because at that time, the sap of the tree separates the bark from the wood. It would be very difficult to perform it at any other time of the year, unless the season was extremely wet and rainy, for heat and driness are a very great hindrance to it.

BARKLEY, a market-town in Gloucestershire, about fifteen miles south-west of Gloucester: west longitude 2° 35', and north latitude 51° 40'.

BARKWAY, a market-town of Hertfordshire, under the meridian of London, and fifteen miles south of Cambridge.

BARLEDUC, the capital of the dutchy of Bar. See the article **BAR**.

BARLEMONT, a town of Hainault, in the french Netherlands; situated on the river Sambre, about fifteen miles south of Mons: east longitude 3° 40', and north latitude 50° 10'.

BARLERIA, a genus of plants of the *didynamia angiospermia* class, the flower of

of which is monopetalous, and the fruit a capsule of a quadrangular figure, formed of two valves, with one cell, containing several plane orbiculated and imbricated seeds.

BARLETTA, a port-town of Barri, in the kingdom of Naples, situated on the gulph of Venice, twenty-two miles west of Barri, in 17° east longitude, and 41° north latitude.

BARLEY, HORDEUM, in botany. See the article **HORDEUM**.

The season for sowing barley differs according to the nature of the soil and situation of the place; some sowing in March, others in April, and some in May, yet with good success.

The principal use of barley is for making beer: but besides this, it is of considerable use in medicine, on account of its cooling and astringent qualities. Hence, a decoction of barley, especially if a little nitre be dissolved in it, is greatly recommended in slow fevers.

BARLEY-CORN, the least of our long-measures, being the third of an inch.

BARM, otherwise called **YEAST**, the head or workings out of ale or beer.

BARNABITES, a religious order, founded in the sixteenth century, by three Italian gentlemen, who had been advised by a famous preacher of those days to read carefully the epistles of St. Paul. Hence they were called clerks of St. Paul, and barnabites, because they performed their first exercise in a church of St. Barnabas at Milan. Their habit is black, and their office is to instruct, catechise, and serve in mission.

BARNACLE, *bernicle*, in ornithology, a species of goose with a black beak, which is much shorter than in the common goose.

BARNACLE is also a species of shell-fish, otherwise called *choncha anatifera*. See the article **CONCHA**.

BARNACLES, in farriery, an instrument composed of two branches joined at one end with a hinge, to put upon horses' noses when they will not stand quietly to be shod, blooded, or dressed.

BARNARD-CASTLE, a town of the bishopric of Durham, in $1^{\circ} 3'$ west longitude, and $54^{\circ} 26'$ north latitude.

BARNET, a market-town of Middlesex (part of it in Hertfordshire) ten miles north west of London, in $10'$ west longitude and $51^{\circ} 42'$ north latitude.

BARNSTABLE, a port-town of Devonshire; situated on the river Taw, about thirty miles north of Exeter; west lon-

gitude $4^{\circ} 10'$, and north latitude $51^{\circ} 42'$.

It sends two members to parliament.

BAROCHE, a port-town of the hither India, in the province of Cambaya; situated sixty miles north of Surat: east longitude $72^{\circ} 5'$ and north latitude $22^{\circ} 35'$.

BAROCO, in logic, a term given to the fourth mode of the second figure of syllogisms. A syllogism in baroco has the first proposition universal and affirmative, but the second and third particular and negative, and the middle term is the predicate in the two first propositions. For example:

Nullus homo non est bipes:

Non omne animal est bipes:

Non omne animal est homo.

BAROMETER, a machine for measuring the weight of the atmosphere, and the variations therein, in order to determine the changes of the weather.

The barometer is founded on an experiment of Torricelli, who considering that a column of water of about thirty-three feet was equal in weight to a column of air of the same base, concluded that a column of mercury, no longer than about twenty-nine inches and a half would be so too, such a column of mercury being as heavy as thirty-three feet of water. Accordingly he tried the experiment, and the apparatus he made use of is now the common barometer or weather-glass. It is constructed in the following manner: *AB*, (plate XXV. fig. 4. n^o. 1.) a glass tube of thirty-four inches length, and $\frac{1}{2}$ of an inch in diameter hermetically sealed at *A*, and open at *B*, is to be filled with quicksilver well defecated and purged of its air.

The finger then being placed on the open end in immediate contact with the mercury, so as to exclude every particle of air, the tube is inverted and carefully immersed, with the finger on the open end, into *CD*, a basin of the same prepared mercury; then upon removing the finger, the mercury in the basin will join that in the tube, and the said column of mercury in the tube will be seen immediately to subside, as in the figure; *GH* represents the surface of the mercury in the tube, and *EF* that of the mercury in the basin.

This instrument is perhaps the best hitherto contrived for measuring the air's gravity, which that it may do to the greatest perfection, it is necessary that there be a nonius applied to the index of a graduated plate, to measure more accurately the rise and fall of the mercury.

A nonius, so called from the name of its inventor, is a small plate so contrived as to slide by a graduated plate in such a manner, that its index may be always set on one part to the surface of the mercury, and on the other end pointing to the division in the scale of inches corresponding thereto. It is divided into ten equal parts, which together are equal to eleven of the divisions of the scale, that is eleven tenths of an inch; and consequently each small division of the nonius is equal to 1.1, two of them to 2.2, three of them to 3.3 of an inch, and so on. Whence it is easy to observe, that if the index points between any two divisions of the scale, we need only look back to see what division of the nonius coincides with a division of the scale, and that will shew the number of tenths of a tenth; which is a great degree of exactness.

The mercury standing at a less height, the nearer it is carried to the top of the atmosphere, renders the barometer useful in determining the height of mountains, and finding out the different elevation of one place above another. Accordingly Dr. Halley, in the philosophical transactions, shews how many feet each inch in the descent of the mercury answers to, as it is conveyed to any elevated place. See the article ATMOSPHERE.

But the principal use of it is to estimate the gravity of the air at different times, in order to foresee the alterations of the weather; for which purpose the following most remarkable phenomena, relating to the rising and falling of the mercury, are said to be carefully observed. 1. The rising of mercury presages in general fair weather, and its falling foul weather. 2. In very hot weather, the falling of mercury foreshews thunder. 3. In winter, the rising presages frost, but in a continued frost, it presages snow. 4. When foul weather happens soon after the falling of the mercury, expect but little of it, and so on the contrary of fair weather. 5. But when the mercury continues to rise for some time before the foul weather is over, expect a continuance of fair weather to follow. 6. In fair weather, when the mercury continues to fall before rain comes, then expect a great deal of wet, and probably high winds. 7. The unsettled motion of the mercury denotes uncertain and changeable weather.

From these observations it appears, that it is not so much the height of the mer-

cury in the tube that indicates the weather, as the motion of it up and down; wherefore, in order to know whether the mercury is actually rising or falling, the following rules are of use. 1. If the surface of the mercury is convex, it is a sign that the mercury is then rising. 2. If the surface is concave it is sinking. 3. If the surface is plain, or rather a little convex, the mercury is stationary. 4. If the glass is small, shake the tube, and if the air is grown heavier, the mercury will rise about half the tenth of an inch; if it is growing lighter, it will sink as much.

The usefulness of barometers, and the advantage that would arise from perceiving the most minute variations in estimating the height of places, have given occasion to the invention of several kinds of barometers, different from the torricellian or common one, though founded on the same principle. In all these, the artist's principal view has been to enlarge the scale of variation, which in the common one, is not above three inches.

The horizontal or rectangular barometer (*ibid.* n^o. 2.) is hermetically sealed at A, and filled with mercury from D to E; then as the upper surface of it rises in the tube, suppose from E to F, the lower will be driven from D to G, as many times farther as this part of the tube is less than that at E. But it often happens, that some parts of the mercury break off from the rest in the leg B C, and are left behind.

The diagonal barometer is represented by A B C, (*ibid.* n^o. 3.) wherein the mercury, instead of rising from B to D (suppose that space to correspond to the scale of variation in a strait tube) will rise from B to A, for it will always stand at the same perpendicular height, whatever be the inclination of the tube, because fluids press only according to their perpendicular altitude. But the tube A B must not be too much inclined, lest the mercury break in it, as in the former.

The wheel barometer will be understood from (n^o. 4. *ibid.*) where A B D is a tube filled with mercury from *a* to E, *a* being an iron ball swimming on the surface of the mercury; thus, as it subsides on the surface of the mercury, draws round the little wheel *m n*, to the circumference of which it is fixed by means of the string *a c*. This wheel carries the index P Q, which points to the graduated edge of the circle K L, and by its motion, shews the

Fig. 1. BACK-STAFF.

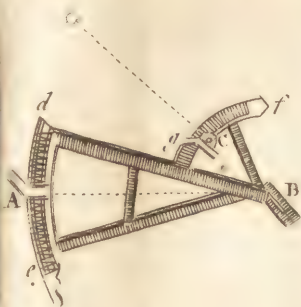


Fig. 2. BALLANCES.

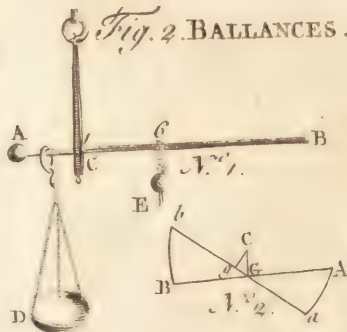
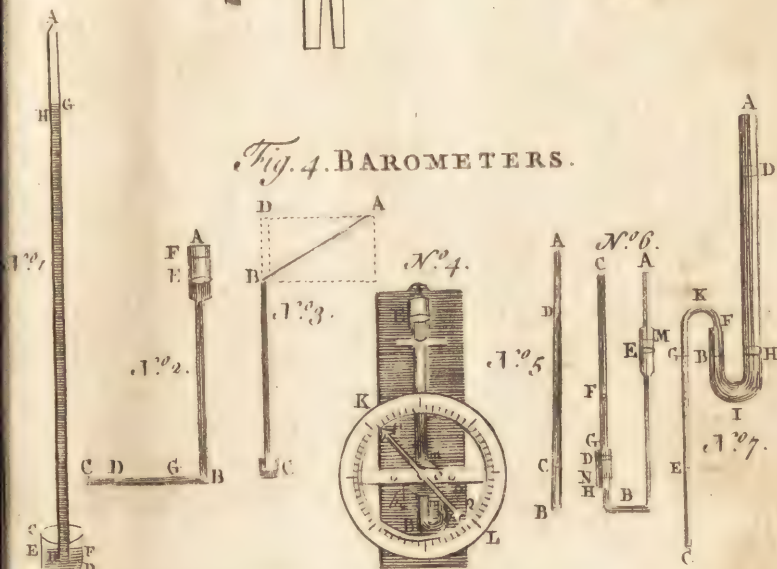


Fig. 3. BANDAGES.



Fig. 4. BAROMETERS.



Handwritten signature or note at the bottom right.



the most minute variations of the mercury. When the ball *a* is raised by the mercury on which it swims, the index is drawn on the contrary way by a lesser ball *b*, which hangs on the other side of the wheel. The friction in this machine, unless it be made with great accuracy indeed, renders it useless.

The pendent barometer consists of a small conical tube (ibid. n^o. 5.) hermetically sealed at *A*, and filled with mercury from *C* to *D*, and empty from thence to *A*. Now supposing the gravity of the air increased, it will raise the mercury higher in the tube, and so force it into a narrower part; by which means the column becoming longer, its perpendicular pressure upon the air below will be proportionably increased. On the contrary, when the air becomes lighter, the mercury descends into a larger part of the tube, and by that means has the length of its column proportionably contracted. But in this barometer either the tube must be very small, in which case the friction of the mercury against the sides will hinder it from rising and falling freely; or when the tube is large, the air will get in, and be apt to divide the column in several places.

These are the principal contrivances hitherto invented for enlarging the scale of variation in simple mercurial barometers. There are other inventions of compound barometers, *viz.* such as are made of mercury and water, or other liquors, as the marine barometer and statical barometer; but they are so difficult to make, so faulty when made, and so troublesome to use, that we shall not describe them. However, that the reader may have an idea of two of the best sort, we shall present him with a description of that of Des Cartes, and of that which owes its invention to Mr. Rowning.

That of Des Cartes is a bent tube *A B C*, (ibid. n^o 6.) hermetically sealed at *A*, filled with water from *F* to *D*, from *D* to *E* with mercury, and empty from thence to the top. Then, upon the mercury's rising, suppose from *E* to *M*, and falling as much at *D*, the surface of the water at *F* would sink so many times farther than the surface of the mercury at *D* as the tube *C G* was smaller than *G H*. But the water here is liable to evaporate.

A B C (ibid. n^o 7.) represents Mr. Rowning's, and is a compound tube sealed at *A*, and open at *C*, empty from *A* to *D*, filled with mercury, from thence to *B*, and

from thence to *E* with water. Let *GBH* be an horizontal line, then it is plain, from the nature of the syphon, that all the compound fluid contained in the part from *H* to *G*, must ever be in equilibrio with itself, be the weight of the air what it will, because the pressure at *H* and *G* must be equal. Whence it is evident, that the column of mercury *D H* is in equilibrio with the column of water *G E*, and a column of air of the same base conjointly, and will therefore vary with the sum of the variations of each of these. The great property of this barometer is, that the scale of variation may be increased *ad infinitum*.

BARON, a degree of nobility next below a viscount, and above a baronet. It is probable that formerly all those were barons, who had lordships with courts-baron, and soon after the conquest all such sat in the house of peers; but they being very numerous, it grew an order and custom, that none should sit but such as the king thought fit to call up by writ, which ran *pro hac vice tantum*. This state of nobility being very precarious, they at length obtained of the king letters patent, and these were called barons by patent, or creation, the only way now in use of making barons, unless when the son of a lord, in his ancestor's lifetime, is summoned by writ.

On solemn occasions, barons wear a coronet, represented in plate XXVI. fig. 2.

BARON by tenure, one who held certain territories of the king, who still retained the tenure in chief to himself.

BARONS of the exchequer, the four judges to whom the administration of justice is committed, in causes between the king and his subjects, relating to matters concerning the revenue. They were formerly barons of the realm, but of late are generally persons learned in the laws. Their office is also to look into the accounts of the king, for which reason they have auditors under them. See the article **AUDITOR**.

BARONS of the cinqueports are sixteen members of the house of commons, elected by the cinqueports, two for each port. See the article **CINQUEPORTS**.

BARON AND FEME, in our law, a term used for the husband in relation to his wife, who is called feme; and they are deemed but one person, so that a wife cannot be witness for, or against, her husband, nor he for or against his wife, except in cases of high treason.

BARON AND FEME, in heraldry, is when the coats of arms of a man and his wife are borne per pale in the same escutcheon, the man's being always on the dexter side, and the woman's on the sinister; but here the woman is supposed not an heiress, for then her coat must be borne by the husband on an escutcheon of pretence. See the articles **PALE** and **ESCUTCHEON of pretence**.

Prender de BARON. See **PRENDER**.

BARONET, a modern degree of honour, next to a baron, created by king James I. in order to propagate a plantation in Ulster, in Ireland, for which purpose each of them was to maintain thirty soldiers in Ireland, for three years, after the rate of eight pence sterling per day to each soldier. The honour is hereditary, and they have the precedence of all knights, except those of the garter, bannerets, and privy-counsellors. They are stiled baronets in all writs, and the addition of Sir is attributed to them, as the title of Lady is to their wives. No honour is to be created between barons and baronets.

BARONY, the honour and territory which gives title to a baron, whether he be a layman or a bishop. See **BARON**.

According to Bracton, a barony is a right indivisible; wherefore, if an inheritance is to be divided among coheirs, though some capital messuages may be divided, yet if the capital messuage be the head of a county or barony, it may not be parcelled; and the reason is, lest by this division many of the rights of counties and baronies by degrees come to nothing, to the prejudice of the realm, which is said to be composed of counties and baronies.

The baronies belonging to bishops are by some called regalia, as being held solely on the king's liberality.

In some cases it is said a barony may be aliened or intailed, and the honour pass accordingly. A certain number of knight's fees antiently made a barony.

BAROSCOPE, the same with barometer. See the article **BAROMETER**.

BARR, or **BAR**. See the article **BAR**.

BARR-DICE, false dice, so contrived as not readily to turn up certain sides.

BARRÁ, in commerce, a long measure used in Portugal and some parts of Spain, to measure woollen cloths, linen cloths, and ferges. There are three sorts, the barra of Valencia, 13 of which make 12 $\frac{1}{2}$ yards english measure; the barra of

Castile, 7 of which make 6 $\frac{3}{4}$ yards; and the barra of Aragon, 3 of which make 2 $\frac{1}{4}$ yards english.

BARRA, in geography, one of the scotch western islands, situated in 10° west lon. and 56° 40' north latitude.

It is also the name of a kingdom in Africa.

BARRACAN, in commerce, a sort of stuff, not diapered, something like camblet, but of a coarser grain. It is used to make cloaks, furtouts, and such other garments, to keep off the rain.

BARRACKS, or **BARACKS**, places for soldiers to lodge in, especially in garrisons. Dr. Pringle observes, that damp barracks are highly injurious to the health of those lodged in them; and therefore ought to be altogether rejected, or remedied by some means or other.

BARRACOL, in ichthyology, the english name of the smooth raja, with spines about the eyes, and three rows of them at the tail. See the article **RAJA**.

BARRATOR, in law, a common mover or maintainer of suits and quarrels, either in courts or elsewhere in the country. A man cannot be adjudged a barrator for bringing any number of suits in his own right, though they are vexatious. Barrators are punished by fine and imprisonment.

BARRATRY, in law, signifies the fomenting quarrels and law-suits. See the preceding article.

BARRATRY, in a ship-master, is his cheating the owners. If goods delivered on ship-board, are embezzled, all the mariners ought to contribute to the satisfaction of the party that lost his goods, by the maritime law; and the cause is to be tried in the admiralty. In a case, where a ship was insured against the barratry of the master, &c. and the jury found that the ship was lost by the fraud and negligence of the master, the court agreed that the fraud was barratry, tho' not named in the covenant; but that negligence was not.

BARRE, or **BAR**. See the article **BAR**.

BARREAUX-FORT, a fortress of Savoy, having Montmelian on the north, and Grenoble on the south; situated in 5° 30' east lon. and 45° north latitude.

BARREL, in commerce, a round vessel, extended more in length than in breadth, made of wood, in form of a little tun. See the article **TUN**.

It serves for holding several sorts of merchandize.

Barrel

Barrel is also a measure of liquids. The english barrel, wine measure, contains the eighth part of a tun, the fourth part of a pipe and one half of an hoghead; that is to say, it contains thirty-one gallons and a half: a barrel, beer-measure, contains thirty-six gallons: and ale measure, thirty-two gallons. The barrel of beer, vinegar, or liquor preparing for vinegar, ought to contain thirty-four gallons, according to the standard of the ale-quart.

BARREL also denotes a certain weight of several merchandizes, which differs according to the several commodities: a barrel of essex butter weighs one hundred and six pounds, and of suffolk butter, two hundred and fifty-six pounds. The barrel of herrings ought to contain thirty-two gallons wine-measure, which amount to about twenty-eight gallons old standard, containing about a thousand herrings. The barrel of salmon must contain forty-two gallons. The barrel of eels the same. The barrel of soap must weigh two hundred and fifty six pounds.

BARREL, in mechanics, a term given by watch-makers to the cylinder about which the spring is wrapped: and by gun-smiths to the cylindrical tube of a gun, pistol, &c. through which the ball is discharged.

BARREL, in anatomy, a pretty large cavity behind the tympanum of the ear, about four or five lines deep, and five or six wide. It is lined with a fine membrane, on which there are several veins and arteries. In this cavity are four small solid bones, not covered with a periosteum, as the rest of the bones of the body are.

Thundering BARRELS, in the military art, are filled with bombs, grenades, and other fire-works, to be rolled down a breach.

BARRELING, the putting certain commodities into barrels; thus we say, to barrel salmon, herring, &c. See the articles **SALMON** and **HERRING**.

BARRENNESS, the same with sterility. See the article **STERILITY**.

BARRERIA, in botany, a genus of the *pentandria-tetragynia* class of plants, the corolla whereof is composed of five oval petals, with very long filiform unguis; the antheræ are simple; the germen is rude, immersed in the cup, and quinquefid; the styles are five, they are filiform, and of the length of the stamina; the stigmata are obtuse.

BARRI, a city of the kingdom of Naples, and capital of a province of the same name, situated on the gulph of Venice, in

17° 40' east long. and 40° 40' north lat. **BARRICADE**, or **BARRICADO**, a war-like defence, consisting of empty barrels and such like vessels, filled with earth, stones, carts, trees cut down, against an enemy's shot, or assault; but generally trees cut with six faces, which are crossed with battoons as long as a half-pike, bound about with iron at the feet.

BARRIER, in fortification, a kind of fence made at a passage, retrenchment, &c. to stop up the entry thereof, and is composed of great stakes, about four or five feet high, placed at the distance of eight or ten feet from one another, with transoms, or over-thwart rafters, to stop either horse or foot, that would enter or rush in with violence: in the middle is a moveable bar of wood, that opens and shuts at pleasure. A barrier is commonly set up in a void space, between the citadel and the town, in half-moons, &c.

BARRIER has been also used to signify a martial exercise of armed men, fighting together with short swords, within rails or bars, which inclosed them.

BARRING a vein, in farriery, an operation performed upon the veins of a horse's legs, and other parts of his body, with intent to stop the course, and lessen the quantity of the malignant humours that prevail there.

It is done by opening the skin above the part, and, after disengaging it, and tying it both above and below, striking between the two ligatures. When horses have got traverse mules, or kibed heels, and rat rails, or arrests in the hinder legs, it is common to barr a vein.

BARRISTER, in common law, a person qualified and impowered to plead and defend the cause of clients, in the courts of justice. They are of two sorts, the outward, or outer barristers, who, by their long study in, and knowledge of, the law, which must be for a term of seven years at least, are called to public practice, and always plead without the bar.

The inner barristers are those who, because they are either attorney, solicitor, serjeant, or counsel to the king, are allowed, out of respect, the privilege of pleading within the bar. But at the rolls, and some other inferior courts, all barristers are admitted within the bar.

Barristers, in the english law, amount to the same with licentiates and advocates in other countries, and courts, where the civil, &c. laws obtain.

BARROW, in the salt-works, wicker
M m a cases,

cases, almost in the shape of a sugar-loaf, wherein the salt is put to drain.

BARROW, also denotes a large hillock, or mound of earth or stones, raised, by the the antients, as a sepulchral monument, more especially over their illustrious dead. These barrows were, by the Romans, called *tumuli*, and are still to be seen in great numbers in almost all parts of Britain, Ireland, and the British Isles, as well as in several other countries. Some of these barrows appear rude and tumultuary; others are more regular, and trenched round: some are the sepulchral monuments of antient Britons; others of Romans, and others of Saxons and Danes. In some have been found urns, ashes, and calcined bones; in others human skeletons.

BARRULET, in heraldry, the fourth part of the bar, or the one half of the closet: an usual bearing in coat-armour.

BARRULY, in heraldry, is when the field is divided bar-ways, that is across from side to side, into several parts. See plate XXVI. fig. 5.

BARRY, in heraldry, is when an escutcheon is divided bar-ways, that is across from side to side, into an even number of partitions, consisting of two or more tinctures, interchangeably disposed: it is to be expressed in the blazon by the word *barry*, and the number of pieces must be specified; but if the divisions be odd, the field must be first named, and the number of bars expressed.

BARRY-BENDY is when an escutcheon is divided evenly, bar and bend-ways, by lines drawn transverse and diagonal, interchangeably varying the tinctures of which it consists. See plate XXVI. fig. 6.

BARRY-FILY is when a coat is divided by several lines drawn obliquely from side to side, where they form acute angles.

BARSANIANS, in church-history, certain heretics, who maintained the errors of the gajanites, and made their sacrifices consist in taking wheat flour to their mouth, on the top of their finger.

BARSE, a name sometimes given to the peach.

BARTERING, in commerce, the exchanging of one commodity for another, or the trucking wares for wares, among merchants.

Bartering was the original and natural way of commerce; precedent to buying; there being no buying till money was invented, though, in exchanging, both parties are buyers and sellers. The only dif-

ficulty in this way of dealing lies in the due proportioning the commodities to be exchanged, so as that neither party sustain any loss.

The following example will sufficiently explain the method of proportioning the commodities. Two merchants *A.* and *B.* barter; *A.* would exchange 5 *C.* 3 quarters 14 lb. of pepper, worth 3 *l.* 10 *s.* per *C.* with *B.* for cotton worth 10 *d.* per pound; how much cotton must *B.* give *A.* for his pepper?

In order to solve this question, and all others of the same nature, we must first find, by proportion, the true value of that commodity whose quantity is given; which, in the present case, is pepper: and then find how much of the other commodity will amount to that sum, at the rate proposed.

First, to find the value of the pepper, say As 1 *C.* is to 3 *l.* 10 *s.* so is 5 *C.* 3 quarters 14 lb. to 20 *l.* 11 *s.* 3 *d.* the true value of the pepper.

Then it is easy to conceive that *A.* ought to have as much cotton at 10 *d.* per pound, as will amount to 20 *l.* 11 *s.* 3 *d.* which will be found by the following proportion.

As 10 *d.* is to 1 lb. so is 20 *l.* 11 *s.* 3 *d.* to 4 *C.* 1 quarter 17 $\frac{1}{2}$ lb.—And so much cotton must *B.* give *A.* for his 5 *C.* 3 quarters 14 lb. of pepper.

BARTHOLOMEW, or **ST. BARTHOLOMEW**, one of the Caribbee islands, situated in 62° 5' west longit. and 18° 6' north latitude.

BARTON, a market-town in Lincolnshire, situated on the southern shore of the Humber, thirty miles south-east of York, in 15' west long. and 53° 45' north lat.

BARTON is also used, in the west of England, for the demesne lands of a manor; also for the manor-house; and in some parts for out-houses, &c.

BATRAMIA, in botany, is a genus of the decandria monogynia class of plants, the calyx of which is a perianthium, cut into five parts: the corolla consists of five wedge-shaped petals; the fruit is globular, and the seeds are four in number, convex on one side, and angular on the other.

BARTSIA, in botany, a genus of the *didynamia-angiospermia* class of plants, whose flower consists of one petal, having the upper lip longest; the seeds are numerous, small, angular, and inclosed in capsules.

BARUTH, an indian measure, containing seven-

seventeen gantans: it ought to weigh about three pounds and an half of english avoirdupois.

BARULES, in church-history, certain heretics, who held that the son of God had only a phantom of a body; that souls were created before the world, and that they lived all at one time.

BARYTONUM, in the italian music, the same with our bass. See the article **BASS**.

BASS-RELIEF. See the article **BASSO-RELIEVO**.

BASALTES, in natural history, called also *coticula*, *lapis heraclius*, and *lapis hydius*, a kind of marble, of a very fine texture of a deep glossy black, resembling that of polished steel, and mixed with no other colour, nor any extraneous matter of any kind. The most remarkable quality of this marble is its figure, being never found in strata, like other marbles, but always standing up in the form of regular angular columns, composed of a number of joints, one placed on, and nicely fitted to another, as if formed by the hands of a skilful workman. It is remarkably hard and heavy, will not strike fire with steel, and is a fine touch-stone. See plate XXVI. fig. 7. The basalt was originally found in columns in Ethiopia, in fragments in the river Timolus, and some other places; we now have it frequently, both in columns and small pieces, in Spain, Russia, Poland, near Dresden, and in Silesia; but the noblest store in the world seems to be that called the Giant's cause-way, in Ireland, where it rises far up in the country, runs into the sea, crosses its bottom, and rises again on the opposite land.

BASARUCO, in commerce, a small base coin in the East-Indies, being made only of very bad tin. There are, however, two sorts of this coin, a good and a bad, which is $\frac{1}{8}$ in value lower than the good.

BASE, in geometry, the lowest side of the perimeter of a figure: thus, the base of a triangle may be said of any of its sides, but more properly of the lowest, or that which is parallel to the horizon. In rectangled triangles, the base is properly that side opposite to the right angle. See the article **HYPOTHENUSE**.

BASE of a solid figure, the lowest side, or that on which it stands; and if the solid has two opposite parallel plane sides, and one of them is the base, then the other is called the base also.

BASE of a conic section, a right line in the hyperbola and parabola, arising from the

common intersection of the secant plane, and the base of the cone.

Altern BASE. See the article **ALTERN**.

BASE, in architecture, is used for any body which bears another, but particularly for the lower part of a column and pedestal. The base of a column is that part between the shaft and the pedestal, if there be any pedestal, or if there be none, between the shaft and the plinth, or zocle. The base is different in the different orders.

The tuscan base is the most simple of all others, having only a single tore. The doric base has an astragal more than the tuscan, and that was introduced by the moderns. The ionic base has a large tore over two slender scotias, separated by two astragals, according to Vitruvius. The corinthian base has two tores, two scotias, and two astragals. The composite base has an astragal less than the corinthian. The attic or atticurgic base, so called, because it was introduced by the Athenians, has two tores and a scotia, and is a proper base for ionic and composite columns. See **IONIC**, **DORIC**, &c.

BASE RUDENTE, that which has its tores cut like cables.

BASE, in fortification, the exterior side of the polygon, or that imaginary line which is drawn from the flanked angle of a bastion, to the angle opposite to it.

BASE, in gunnery, the least sort of ordnance, the diameter of whose bore is $1\frac{1}{4}$ inch, weight 200 pound, length 4 feet, load 5 pound, shot $1\frac{1}{2}$ pound wt. and diameter $1\frac{1}{8}$ inch.

BASE LINE, in perspective, the common section of a picture, and the geometrical plane.

Distinct BASE, in optics. See **FOCUS**.

BASE of the heart, in anatomy, denotes its upper part.

The term base is sometimes also used for the root of the os hyoides.

BASE, or **BASS**, in music. See **BASS**.

BASE, in law. Base estate, such as base tenants have in their hands. Base tenure, the holding by villenage or other customary services; as distinguished from the higher tenures in capite, or by military service. Base fee, is to hold in fee at the will of the lord, as distinguished from soccage tenure. Base court, any court not of record.

BASE POINT, in heraldry. See **POINT**.

BASEMENT, in architecture, a base continued a considerable length, as round a house, room, &c.

BASHAW,

BASHAW, a turkish governor of a province, city, or other district.

Bashaws include beglerbegs, and sometimes sangiacbegs, though a distinction is sometimes made, and the name bashaw is appropriated to the middle fort, or such as have two ensigns or horse-tails carried before them. Those who have the honour of three tails, are called beglerbegs; and those who have only one, fangiacbegs.

The appellation bashaw is given by way of courtesy, to almost every person of any figure at the grand signior's court.

BASIGLOSSUS, or **BASIOGLOSSUS**. See the article **BASIOGLOSSUS**.

BASIL, in geography, a city and canton of Switzerland, near the confines of Alsace, situated on both sides the river Rhine.

The city is large, populous, and fortified; being situated in $7^{\circ} 40'$ east longit. and $47^{\circ} 40'$ north latitude.

BASIL, in botany, the english name of a genus of plants called by botanists *ocymum*. See the article **OCYUM**.

BASIL, among joiners, the sloping edge of a chissel, or of the iron of a plane, to work on soft wood: they usually make the basil twelve degrees, and for hard wood eighteen; it being remarked, that the more acute the basil is, the better the instrument cuts; and the more obtuse, the stronger and fitter it is for service.

Order of St. BASIL, the most antient of all the religious orders, was very famous in the east. It passed into the west about the year 1057, and was held in great esteem, especially in Italy. As to their rules, the italian monks of that order fast every Friday in the year: they eat meat but three times a week, and then but once a day: they work all together at certain hours of the day: their habit is nearly like that of the benedictines, and they wear a small beard like the fathers of the mission.

BASILARE os, in anatomy, the same with *os sphenoides*. See **SPHENOIDES**.

BASILIC, in ancient architecture, a term used for a large hall, or public place, with isles, porticos, galleries tribunals, &c. where princes sat and administered justice in person. But the name has since been transferred, and is now applied to such churches, temples, &c. which by their grandeur as far surpass other churches as princes palaces do private houses: as also to certain spacious halls in princes courts, where the people hold

their assemblies: and to such stately buildings as the Palais at Paris, and the Royal-exchange at London, where merchants meet and converse.

BASILICA, in anatomy, the interior branch of the axillary vein, running the whole length of the arm. See the articles **AXILLARY** and **VEIN**.

BASILICATE, a province of the kingdom of Naples, having the Terra di Barri on the north, and the province of Calabria on the south.

BASILICI, a denomination given in the greek empire to those who carried the emperor's orders and commands.

BASILICON, in pharmacy, an epithet for a great many compositions to be found in the antient medicinal writers: but it more particularly denotes an officinal ointment, composed of wax, resin, pitch, and oil of olives, from thence called *tetrapharmacum*.

It is much used to incarnate wounds; though of late our surgeons begin to substitute, for such intentions, dressings that are not so liable to produce fungosities. See the article **WOUND**.

BASILICS, *basilica*, a body of the roman laws, translated into greek. The basilics comprehend the institutes, digests, code, novels, and some edicts of Justinian and other emperors.

BASILICUS, in astronomy, *cor leonis*, a fixed star of the first magnitude in the constellation leo. See the article **LEO**.

BASILIDIANS, in church-history, a branch of gnostics, who maintained that Christ's body was only a phantom, and that Simon the Cyrenean suffered in his stead.

BASILISK, *basiliscus*, a fabulous kind of serpent, said to be produced from a cock's egg, hatched by a serpent, and supposed to kill by its breath or sight only.

BASILISK, in military affairs, a large piece of ordnance, being a forty-eight pounder, and weighing about seven thousand two hundred pounds. The basilisks of the French are but ten feet long, those of the Dutch fifteen.

BASINGSTOKE, a market-town of Hampshire, about sixteen miles north-east of Winchester, in $1^{\circ} 15'$ west long. and $51^{\circ} 20'$ north latitude.

BASIOGLOSSUS, in anatomy, a muscle arising from the base of the os hyoides, and running along the middle of the tongue towards its apex: with the assistance of the ceratoglossus, it draws the tongue backward, and makes it shorter.

BASIS,

BASIS, BASE, in geometry. See **BASE**.

BASIS, among physicians, denotes the principal ingredients in compound medicines.

BASKET, a kind of vessel made of twigs interwoven together, in order to hold fruit, earth, &c. It denotes an uncertain quantity, as a basket of medlars is two bushels; of *asa foetida* from twenty to fifty pounds weight.

BASKETS of earth, in the military art, called by the French *corbeilles*, are small baskets used in sieges, on the parapet of a trench, being filled with earth. They are about a foot and a half high, about a foot and a half diameter at the top, and eight or ten inches at bottom, so that being set together, there is a sort of embrasures left at their bottoms, through which the soldiers fire, without exposing themselves.

BASKET-FISH, a kind of star-fish caught in the seas of north America. See the article **STAR-FISH**.

BASKET-SALT, that made from salt-springs, being purer, whiter, and composed of finer grains than the common brine-salt.

BASKET-TENURE, a tenure of lands by the service of making the king's baskets.

BASKIRI, a country of muscovitish Tartary, bounded on the north by the Tartars of Tumen, on the east by Barabinskoi, on the south by the mountain Sورتора, and on the west by the dutchy of Bulgaria.

BASON, pelvis, in anatomy. See the article **PELVIS**.

BASON, in hydraulics, a reservoir of water, used for various purposes: thus we say, the bason of a jet d'eau, the bason of a fountain, and likewise the bason of a port or harbour. See the article **DOCK**.

BASON of a bath, among the antients, that place into which they descended by steps, in order to bathe. Vitruvius calls it *la-trum*.

The french architects distinguish basons into different kinds, according to their figure or use; as *basons a rigole*, or trenched basons: *basons en coquille*, in the form of a shell; and *basons de partage*, distributing basons.

BASON, in jewish antiquities, the laver of the tabernacle, made of the brass looking-glasses belonging to those devout women that watched and stood centinels at the door of the tabernacle.

BASON, in mechanics, a term used by glass-grinders for a dish of copper, iron, &c. in which they grind convex glasses, as

concave ones are formed on spheres; and by hatters for a round iron mould, in which they form the matter of their hats, and also for a leaden one for the brims of hats, having an aperture in the middle, of a diameter sufficient for the largest block to go through.

BASONS of a ballance, the two scales or dishes fastened to the extremities of the strings, the one to hold the weight, and the other the thing to be weighed.

Sale by the BASON, at Amsterdam, is a public sale made by authority, over which presides an officer, appointed by the magistrates. It is so called because, before the lots are delivered to the highest bidder, they commonly strike on a copper bason, to give notice that the lot is going to be adjudged.

BASQUE, or LABOUR, the south-west division of the province of Gascony, in France.

BASS, in music, that part of a concert which is most heard, which consists of the gravest and deepest sounds, and which is played on the largest pipes or strings of a common instrument, as of an organ, lute, &c. or on instruments larger than ordinary, for that purpose, as bass-voles, bassoons, bass-hautboys, &c. The bass is the principal part of a musical composition, and the foundation of harmony; for which reason it is a maxim among musicians, that when the bass is good, the harmony is seldom bad.

Thorough-BASS is the harmony made by the bass-voles, or theorbo's continuing to play both while the voices sing, and the other instruments perform their parts, and also filling up the intervals, when any of the other parts stop. It is played by cyphers marked over the notes, on the organ, spinet, harpsichord, &c. and frequently simply, and without cyphers, on the bass-viol, and bassoon.

Counter-BASS is a second or double bass, where there are several in the same concert.

BASS, in geography, an inaccessible rock in the Edinburgh frith.

BASS, among gardeners, a soft kind of sedge or rush used in binding plants, &c.

BASSAIM, or BACCERIM, a port-town of the hither India, subject to the Portuguese, situated in $71^{\circ} 5'$ east lon. and $19^{\circ} 30'$ north latitude.

BASSE, in ichthyology, a species of perch, otherwise called *lupus marinus*, or the sea-wolf.

BASSET, a game at cards, said to have been

been invented by a noble Venetian, for which he was banished.

The persons concerned in it are a dealer, or banker, his assistant, who supervises the losing cards, and the punter, or any one who plays against the banker.

BASSIGNY, the south-east division of the province of Champaign, in France. See the article **CHAMPAIGN**.

BASSOON, a musical instrument of the wind-sort, blown with a reed, furnished with eleven holes, and used as a bass in a concert of hautboys, flutes, &c.

To render this instrument more portable, it is divided into two parts, whence it is also called *fagot*. Its diameter at bottom is nine inches, and its holes are stopped like those of a large flute.

BASSO-RELIEVO, or **BASS-RELIEF**, a piece of sculpture, where the figures or images do not protuberate, jet, or stand out far above the plane on which they are formed.

Whatever figures or representations are thus cut, stamped, or otherwise wrought, so that not the entire body, but only part of it is raised above the plane, are said to be done in relief, or *relievo*: and when that work is low, flat, and but a little raised, it is called *low relief*; when a piece of sculpture, a coin, or a medal, has its figure raised so as to be well distinguished, it is called *bold*, and we say its relief is strong.

BASS-VIOL, a musical instrument of the like form with that of a violin, but much larger. It is struck with a bow as that is, has the same number of strings, and has eight stops, which are subdivided into semi-stops: its sound is grave, and has a much nobler effect in a concert than that of the violin.

BASTARD, a natural child, or one born of an unmarried woman. By the laws of England, a bastard is incapable of inheriting land, as heir to his father: nor can any one inherit land as heir to him, except the children of his own body, born in wedlock; for by order of law, a bastard has no relation, of which it takes any notice, and he himself is accounted the first of his family. If a man marries a woman that is big with child by another, who was not her husband, and the child is born within the espousals, then it shall be deemed the child of the husband, and no bastard, though it were born but a day after the marriage: but this is understood when the parties are of age, and there is no apparent impossibility on the

man's side. If a woman be with child by a man who afterwards marries her, and then the child is born, this child is no bastard: but if a man hath issue by a woman, before marriage, and afterwards marries her, the first issue is a bastard, by our laws, but legitimate by the civil law. If a woman elope from her husband, and he be within the four seas, her issue shall not be a bastard by our laws, though by the special law it shall: and if the wife continues in adultery, and has issue, it is a bastard in our law. If the husband and wife consent to live separate, and have issue afterwards, it shall be accounted legitimate, because the access of the husband shall be presumed: but if the contrary be found, it shall be a bastard.

BASTARD is also used diminutively, to denote the imperfection or less value of things: thus we say, *bastard-scarlet*, *bastard-saffron*, &c.

BASTARDY, a defect of birth objected to one born out of wedlock, and is general or special: general bastardy is a certificate from the bishop of the diocese, to the king's justices, after enquiry made, whether the party is a bastard or not, upon some question of inheritance. *Bastardy special* is a suit commenced in the king's courts, against a person that calls another bastard.

Right of BASTARDY, in the french customs.

The bastards of a king of France are princes, when owned; those of a prince, or nobleman, are gentlemen; and those of a gentleman, are only plebeians, and pay taxes accordingly. By the french laws, bastards cannot inherit before they are legitimated; nor have heirs, except their own children, begotten in wedlock: for want of these, their inheritance devolves on the king.

BASTERNA, a sort of vehicle, much the same with our chariot, used by the ancient roman ladies. This was a different carriage from the *lectica*, which it succeeded, inasmuch as the *lectica* was borne on men's shoulders, whereas this was drawn by beasts.

BASTIA, the chief city of the island of Corsica. It is a good port, situated on the north-east part of the island, in 9° 40' east long. and 42° 20' north lat.

BASTILE, a castle for state prisoners in Paris, answering to the tower of London.

BASTIMENTOS, small islands, on the coast of Darien, in south America, lying a little to the eastward of Porto Bello.

BASTION, in the modern fortification, a huge mass of earth, faced usually with sods, sometimes with brick, and rarely with stone, standing out from a rampart, whereof it is a principal part, and is what, in the antient fortification, was called a bulwark, *propugnaculum*.

A bastion consists of two faces and two flanks; the faces include the angle of the bastion, and their union makes the out-moat, or the salient angle, called also the angle of the bastion; and the union of the two faces to the two flanks makes the side-angles, called also the shoulders, or epaules; and the union of the two other ends of the flanks to the two curtains makes the angles of the flanks.

In regard to the bastion, the great rule is, that every part of it be seen, and defended from some other part: whence mere angles are not sufficient, but flanks and faces are necessary. For the proportion of the faces, they are not to be less than twenty-four rhineland perches, nor more than thirty. The flanks of a bastion, in case they stand at the same angle under the line of defence, are so much the better the longer they be; whence they must stand at right angles to the line of defence: and the disposition of the flanks makes the principal part of fortification, as it is that on which the defence chiefly depends, and which hath introduced the various forms of fortifying. The angle of the bastion must be more than sixty degrees, otherwise it will be too small to give room for guns, and will either render the line of defence too long, or the flanks too short; so that it must be either a right angle, or some intermediate one between that and sixty degrees; for it is disputed, whether or no it should exceed a right angle. See the article **FORT**.

Solid BASTIONS are those that have the void space within them filled up entirely, and raised of an equal height with the rampart.

Void and Hollow BASTIONS are those that are only surrounded with a rampart and parapet, having the space within void and empty, where the ground is so low, that if the rampart be taken, no retrenchment can be made in the center, but what will lie under the fire of the besiegers.

Flat BASTION is a bastion built in the middle of the curtain, when it is too long to be defended by the bastion at its extremes.

Cut BASTION is that whose point is cut off, and instead thereof has a re-entering

angle, or an angle inwards with two points outwards, and is used, either when without such a contrivance the angle would be too acute, or when water or some other impediment hinders the carrying on the bastion to its full extent.

Composed BASTION is when two sides of the interior polygon are very unequal, which makes the gorges also unequal.

Deformed BASTION is when the irregularity of the lines and angles makes the bastion out of shape, as when it wants one of its demigorges, one side of the interior polygon being too short.

Demi BASTION is composed of one face only, and but one flank, and a demi-gorge.

Double BASTION is that which is raised on the plane of another bastion.

Regular BASTION is that which has its true proportion of faces, flanks, and gorges.

BASTION DE FRANCE, a fortress in the kingdom of Tunis, subject to France.

It is situated about eighty miles west of the city of Tunis, in 8° east longit. and $35^{\circ} 30'$ north latitude.

BASSTOIGNE, a town of the Netherlands, in the province of Luxemburg, situated in $5^{\circ} 26'$ east longitude, and 50° north latitude.

BASTON, in law, one of the servants to the warden of the fleet-prison, who attends the king's courts with a red staff, for taking into custody such as are committed by the court. He also attends on such prisoners as are permitted to go at large by licence.

BASTON, or **BATOON**, in architecture, a moulding in the base of a column, called also a tore.

BASTON, or **BATOON**, in heraldry, a kind of bend, having only one third of the usual breadth.

The baston does not go from side to side, as the band or scarf does, being in the form of a truncheon. Its use is a note or mark of bastardy. See plate XXVI. fig. 8.

BASTONADE, or **BASTINADO**, a kind of punishment inflicted by beating the offender with a stick. This sort of beating; among the antient Greeks and Romans; was the punishment commonly inflicted on criminals that were freemen, as that of whipping was on the slaves. We find some instances of this sort of discipline among the Hebrews; and it is a penalty used in the east even at this day.

BAT, *vespertilio*, in zoology: See the article **VESPERTILIO**.

Sea-BAT, in ichthyology, the english name of a species of *acarauna*, caught in the american seas.

BAT, BATE, or BATZ, a small copper coin, mixed with a little silver, current in several cities of Germany: it is worth four crutzers. It is also a coin of Switzerland, current at five livres, or one hundred sols, french money.

BATABLE GROUND, that land which lay between Scotland and England, when the kingdoms were distinct, to which both nations pretended a right.

BATACALO, a fort and town on the eastern coast of the island of Ceylon, in 81° east longitude, and 8° north latit.

BATASECK, a town of the lower Hungary, situated on the Danube, about seventy miles south of Buda, in $19^{\circ} 45'$ east longitude, and $46^{\circ} 30'$ north latitude.

BATAVIA, the capital of all the dutch colonies and settlements in the East Indies. It is situated on the east part of the island of Java, and has an excellent harbour, in 106° east longit. and 6° south latitude.

BATCHELOR, or BACHELOR, a man who still continues in the state of celibacy, or who was never married.

BATCHELOR was antiently a denomination given to those who had attained to knight-hood, but had not a number of vassals sufficient to have their banner carried before them in the field of battle: or if they were not of the order of bannerets, were not of age to display their own banner, but obliged to march to battle under another's banner. It was also a title given to young cavaliers, who having made their first campaign, received the military girdle accordingly. And it served to denominate him who had overcome another in a tournament, the first time he ever engaged.

Knights BATCHELORS were so called, as being the lowest order of knights, or inferior to bannerets.

BATCHELORS, in an university-sense, are persons that have attained to the baccalaureat; or who have taken the first degree in the liberal arts and sciences. Before a person can be admitted to this degree at Oxford, it is necessary that he study there four years; three years more may entitle him to the degree of master of arts; and in seven years more he may commence batchelor of divinity. At Cambridge the degrees are usually taken much the same as at Oxford, excepting

in law and physick, in either of which the batchelor's degree may be taken in six years. In France, the degree of batchelor of divinity is attained in five years study, that is, in two years of philosophy, and three of divinity.

BAT-FOWLING, a method of catching birds in the night, by lighting some straw, or torches, near the place where they are at roost; for upon beating them up, they fly to the flame, where being amazed, they are easily caught in nets, or beat down with bushes fixed to the end of poles, &c.

BATH, balneum, a sufficient quantity of water collected in some convenient receptacle, for people to wash in, either for health or pleasure.

Baths are distinguished into natural and artificial, and natural again into hot and cold.

Hot BATHS, called by the antients *thermae*, owe their origin partly to the admixture of sulphureous particles, while the water is passing through its subterraneous canals, and partly to the fumes and vapours exhaling through the pores of the earth, where sulphur is either pure or impure, as in coals, amber, iron, nitre, &c. The chief hot baths in our country are those at Bath, near Wells, in Somersetshire; and those at Buxton and Matlock, in Derbyshire.

In the city of Bath are four hot baths: one triangular, called the cross bath, the heat of which is more gentle than that of the rest, because it has fewer springs in it; the second is the hot bath, which was formerly much hotter than the rest, but it was then not so large as at present: the other two are the king and queen's bath, divided only by a wall; the last having no spring, but receiving its water from the king's bath: each of these is furnished with a pump, to throw out the water upon the diseased, where that is required.

These waters abound with a mineral sulphur; they are hot, of a bluish colour, and strong scent, and send forth a thin vapour: they do not pass through the body like most other mineral waters: though, if salt be added, they purge presently. On settlement, they afford a black mud, which is used by way of cataplasm in aches, and proves of more service to some than the waters themselves: the like they deposite on distillation, and no other: the cross-bath preys on silver, all of them on iron, but none on brass.

The use of these baths is found beneficial in disorders of the head, as palsies, &c. in cuticular diseases, as leprosy, &c. obstructions and constipations of the bowels, the scurvy, and stone, and in most diseases of women and children; they are used as a last remedy in obstinate chronic diseases, where they succeed well, if they agree with the constitution of the patient.

Of the three hot European waters of note, *viz.* Aix-la-Chapelle, Bourbon, and Bath, the first abounds more eminently in sulphur, which makes its heat, nauseousness, and purgative faculty so great, that few stomachs can bear its heat and nauseousness, and fewer weak constitutions the violence of its purging.

The Bourbon are of a middle nature, between the Aix-la-Chapelle and the Bath waters; being less hot, nauseous, and purgative than those of Aix-la-Chapelle; but more so than the Bath waters. The Bath waters partake less of the sulphur, and more of the steel, than those two, and are of consequence by far the most pleasant and most effectual.

Cold BATHS were, by the ancients, held in the greatest esteem; and though they were long banished out of medicine, the present age can boast of abundance of noble cures performed by them, and such as were long attempted in vain by the most powerful medicine.

The cold bath is serviceable in most chronic disorders; it always acts the part of a diuretic, and will do more, especially plunging over head in sea water, in the cure of melancholy, madness and particularly that occasioned by the bite of a mad dog, than any other medicine. There is nothing of greater use in the cure of frigidity, when occasioned by excess of venery, than the cold bath. It contributes much to the cure of a gonorrhœa, and fluor albus; and is successful in a palsy.

Artificial BATHS are various, according to the various occasions: as aqueous baths, vaporous baths, dry baths, &c. Aqueous baths are made from common plants, and other emollient, resolvent, and nerve substances; consisting sometimes of milk and emollient herbs, with rose-water, &c. when the design is to humectate, or when it is only to cleanse, it consists of bran and water alone; and when it is for an excessive pain or tumour, &c. in these cases it consists of a

decoction of roots, plants, and some spirit of wine.

In vapour-baths, the design of which is to promote a perspiration, the steam or fume of some decoction is received upon some part of the body for that purpose. In these baths, there is no part of the patient's body plunged into the decoction, only those parts which require it, are properly disposed to receive the steams of some proper fomentation. Of this kind are the bagnios, where persons are made to sweat by the heat of a room, and pouring on of hot water.

Vapour-baths are of singular service in cold distempers, anasarca's œdematous tumours, paralytic cases, swellings of the testicles, &c.

Dry baths are made of ashes, salt, sand, shreds of leather, &c.

This bath is successful in provoking sweat in a plentiful manner, the patient being placed conveniently for the reception of the fumes: it is found useful in removing old obstinate pains, and is very effectual in venereal complaints.

BATH, Balneum, among chemists. See the article *BALNEUM*.

BATH, in Hebrew antiquity, a measure of capacity, containing the tenth part of an omer, or seven gallons and four pints, as a measure for things liquid: or three pecks and three pints, as a measure for things dry.

BATH, in architecture, superb buildings erected for the sake of bathing.

Those buildings, among the ancients, were most pompous and magnificent; such were those of Titus, Paulus Emilius, and Dioclesian, whose ruins are still remaining.

BATH, in geography, a city of Somersetshire, situated on the river Avon, ten miles east of Bristol: west longitude 28° 30', and north latitude 51° 30'.

It has been long famous for its excellent baths.

Knights of the BATH, a military order in England, supposed to have been instituted by Richard the 1st. who limited the number of knights to four: however, his successor, Henry IV. increased them to forty-six. Their motto is *Tria juncta in uno*, signifying the three theological virtues.

This order received its denomination from a custom of bathing before the knights received the golden spur. They wear a red ribband beltwise, appendant

to which is the badge or symbol of the order which is a sceptre, rose, thistle, and three imperial crowns conjoined within a circle, upon which circle is the motto, and all of pure gold. Each knight wears a silver star of eight points upon the left breast of his upper garment.

The order of the bath, after remaining many years extinct, was revived under George the first, by a solemn creation of a great number of knights.

BATH-KOL, the daughter of a voice. So the Jews call one of their oracles, which is frequently mentioned in their books, especially the Talmud, being a fantastical way of divination invented by the Jews themselves, not unlike the *sortes virgilianæ* of the heathens. However, the Jewish writers call this a revelation from God's will, which he made to his chosen people, after all verbal prophecies had ceased in Israel.

BATH-METAL, a mixed metal, otherwise called prince's metal. See the article *Prince's METAL*.

BATH-WATER. See the article *BATH*.

BATHING, the washing, soaking, suppling, refreshing, moistening, &c. the body or any part thereof, in water, liquor, &c. for pleasure or health. See the article *BATH*.

Tho' bathing hath been used with advantage in most cases, yet there is scarce any, but, in some circumstances, it would be prejudicial: so that to apply it with the greatest advantage, it will be necessary to enquire what alterations are made by it in a human body. It is well known that heat relaxes, and that cold, on the contrary, contracts and braces the bodies it is applied to: the effects of cold bathing is attributed not only to its chillness, and constringing power, but, in some measure to the weight of the water. For suppose a person immersed two feet, and the area of his skin fifteen feet, he sustains a weight of water, added to that of the air, equal to 2280 *lib.* troy. Besides, the water in bathing, enters the body, mixes with the blood, and dilutes all the juices.

BATHING A FALCON is when weaned from her ramage fooleries, she is offered some water to bathe herself in a basin, where she may stand up to her thighs. By this means, she gathers strength and boldness.

BATHMUS, *Βαθμῶς*, in anatomy denotes the cavity of a bone, fitted to receive the prominence of another bone.

BATMAN, in commerce, a kind of weight used at Smyrna, containing six oke of four hundred drams each, which amount to sixteen pounds, six ounces, and fifteen drams of english weight.

BATON, or **BASTON**. See *BASTON*.

BATRACHOMYOMACHIA, the battle of the frogs and the mice, the title of a fine burlesque poem, usually ascribed to Homer.

The subject of the work is the death of Pylcharpax, a mouse, son to Toxartes, who being mounted on the back of Physignathus, a frog, on her voyage to her palace, to which she had invited him, was seized with fear, when he saw himself in the middle of the pond, so that he tumbled off and was drowned. Physignathus being suspected to have shaken him off with design, the mice demanded satisfaction, and unanimously declared war against the frogs.

BATTALIA, denotes an army drawn up in order of battle. See the articles *ARMY* and *BATTLE*.

BATTALION, a small body of infantry, ranged in form of battle, and ready to engage.

A battalion usually contains from 5 to 800 men; but the number it consists of is not determined. They are armed with firelocks (pikes being quite laid aside) swords and bayonets; and divided into thirteen companies, one of which is grenadiers. They are usually drawn up with three men in file, or one before another. Some regiments consist but of one battalion, others are divided into four or five.

BATTATA, or **POTATOE**. See the article *POTATOE*.

BATTEL, a town of Suffex, six miles north of Hastings: east longitude 35', and north latitude 50° 55'.

BATTEN, a name that workmen give to a scantling of wooden stuff, from two to four inches broad, and about one inch thick; the length is pretty considerable, but undetermined.

This term is chiefly used in speaking of doors and windows of shops, &c. which are not framed of whole deal, &c. with styles, rails, and pannels like wainscot, but are made to appear as if they were, by means of these battens, bradded on the plain board round the edges, and sometimes cross them, and up and down.

BATTENBURG, a town of dutch Guelderland, situated on the north shore of the

the river Maese, almost opposite to Ravensstein : east longitude $5^{\circ} 30'$, and north latitude $51^{\circ} 45'$.

BATTERING, the attacking a place, work, or the like, with heavy artillery. To batter in breach, is to play furiously on a work, as the angle of a half moon, in order to demolish and make a gape therein. In this they observe never to fire a piece at the top, but all at the bottom, from three to six feet from the ground.

The battery of a camp is usually surrounded with a trench, and palisadoes at the bottom, with two redoubts on the wings, or certain places of arms, capable of covering the troops which are appointed for their defence. See the article **BATTERY**.

BATTERING-PIECES, or pieces of battery. See the article **CANNON**.

BATTERING-RAM, in antiquity. See the article **RAM**.

BATTERING-RAMS, in heraldry, a bearing, or coat of arms, resembling the military engine of the same name. See plate XXVI. fig. 9.

BATTERY, in the military art, a parapet thrown up to cover the gunners, and men employed about the guns, from the enemy's shot. This parapet is cut into embrasures, for the cannon to fire through. The height of the embrasures, on the inside, is about three feet : but they go sloping lower to the outside. Their wideness is two or three feet, but open to six or seven on the outside. The mass of earth that is betwixt two embrasures, is called the merlon. The platform of a battery is a floor of planks and sleepers, to keep the wheels of the guns from sinking into the earth ; and is always made sloping towards the embrasure, both to hinder the reverse, and to facilitate the bringing back of the gun.

BATTERY of mortars differs from a battery of guns, for it is sunk into the ground, and has no embrasures.

Gross **BATTERIES** are two batteries, which play athwart one another, upon the same thing, forming there an angle, and beating with more violence and destruction ; because what one bullet shakes, the other beats down.

BATTERY sunk or buried, is when its platform is sunk, or let down into the ground, so that there must be trenches cut in the earth, against the muzzles of the guns, for them to fire out at, and to serve for embrasures.

BATTERY d'enfilade is one that scours, or sweeps the whole length of a straight line.

BATTERY en echarpe is that which plays obliquely.

BATTERY de reverse, that which plays upon the enemy's back.

Camerade **BATTERY** is when several guns play at the same time upon one place.

BATTERY, in law, the striking, beating, or offering any violence to another person, for which damages may be recovered. But if the plaintiff made the first assault, the defendant shall be quit, and the plaintiff amerced to the king for his false suit.

Battery is frequently confounded with assault, tho', in law, they are different offences ; for in the trespass for assault and battery, one may be found guilty of assault, yet acquitted of the battery ; there may therefore be assault without battery, but battery always implies an assault. See the article **ASSAULT**.

BATTER, a kind of paste made up of flour, water, eggs, &c. to make cakes, puddings, &c.

BATTEURS d'esclade, or scouts, are horse-men sent out before, and on the wings of an army, one, two, or three miles, to make discoveries.

BATTLE, a general engagement between two armies, in a country sufficiently open for them to encounter in front, and at the same time ; or, at least, for the greater part of the line to engage.

Other great actions, though of a longer duration, and even attended with a greater slaughter, are only called fights.

The loss of a battle frequently draws with it that of the artillery and baggage ; the consequence of which is, that as the army beaten cannot again look the enemy in the face, till these losses have been repaired, it is forced to leave the enemy a long time master of the country, and at liberty to execute all their schemes ; whereas a great fight lost, is rarely attended with the loss of all the artillery, and scarce ever of the baggage.

Naval **BATTLE**, the same with a sea-fight, or engagement between two fleets of men of war.

Before a naval battle, every squadron usually subdivides itself into three equal divisions, with a reserve of certain ships, out of every squadron, to bring up their rear. Every one of these, observing a due birth and distance, are in the battle to second one another ; and the better to avoid confusion and falling foul of each other,

other, to charge, discharge, and fall off, by threes or fives, more or less, as the fleet is greater or smaller. The ships of reserve are instructed either to succour and relieve those that are any way in danger; or to supply, and put themselves in the place of those that shall be made unserviceable.

As for a fleet consisting but of few ships, when obliged to fight in an open sea, it should be brought up to battle in only one front, with the chief admiral in the middle of them, and on each side of him the strongest and best provided ships of the fleet. See **SIGNALS** and **BOARDING**.

BATTLE is also used figuratively, for a representation of a battle in sculpture, painting, and the like.

Line of BATTLE, order of BATTLE, see the articles **LINE** and **ARMY**.

Square BATTLE. See **SQUARE**.

BATTLE-ROYAL, in cock-fighting, a fight between three, five, or seven cocks, all engaged together, so that the cock which stands longest, gets the day.

BATTLE-AX, *securis danica*, a kind of halbard, first introduced into England by the Danes.

BATTLEMENTS, in architecture, are indentures or notches in the top of a wall, or other building, in the form of embrasures, for the sake of looking through them.

BATTOLOGY, in grammar, a superfluous repetition of some words or things.

BATTON, **BATOON**, or **BASTON**. See the article **BASTON**.

BATTERY, in commerce, a name given by the Hanse towns to their country houses and warehouses in foreign countries. The principal battories were at London, Archangel, Novogrod, Lisbon, Venice, and Antwerp.

BATTUS, an order of penitents at Avignon, and in Provence, whose piety carries them to exercise very severe discipline upon themselves, both in public and private.

BATUECOS, or **LOS BATUECOS**, a people of Spain in the kingdom of Leon, that inhabit the mountains between Salamanca and Corica, and are thought to be descended from the Goths.

BATZ, a copper coin mixed with some silver, and current at different rates, according to the alloy, in Nuremberg, Basil, Fribourg, Lucerne, and other cities of Germany and Switzerland.

BAVARIA, one of the circles of the german empire, lying between Austria on

the east, and Swabia on the west.

The duke of Bavaria is one of the nine electors. See the article **ELECTOR**.

BAUHINIA, in botany, a genus of plants of the decandria-monogynia class, the flower of which consists of five lanceolated, undulated petals, with attenuated and reflex tops, the lower ones somewhat the larger, and standing on unguis of the length of the calyx; the fruit is a long cylindric legumen, having one cell, and containing numerous round compressed seeds, that run longitudinally along the pod.

BAVINS, in the military art, denote brush-faggots, with the brush at length.

BAUM, **MELISSA**, in botany. See the article **MELISSA**.

BAUTZEN, the chief town of Lusatia in Germany, about thirty-five miles north east of Dresden: east longitude $14^{\circ} 30'$, north latitude $51^{\circ} 15'$.

BAWD, a woman who keeps a bawdy-house, or who conducts criminal intrigues. See the next article.

BAWDY-HOUSE, a house of ill fame, to which lewd persons of both sexes resort, and there have criminal conversation.

The keeping a bawdy-house is a common nuisance, not only on account that it endangers the public peace, by drawing together debauched and idle persons; and promoting quarrels, but likewise for its tendency to corrupt the manners of the people. And therefore, persons convicted of keeping bawdy-houses, are punishable by fine and imprisonment; also liable to stand in the pillory, and to such other punishment, as the court, at their discretion, shall inflict.

BAY, in geography, an arm of the sea, shooting up into the land, and terminating in a nook. It is a kind of lesser gulph, bigger than a creek, and is larger in its middle within than at its entrance. The largest and most noted bays in the world are those of Biscay, Bengal, Hudson's, Panama, &c.

BAY, among farmers, a term used to signify the magnitude of a barn, as if a barn consists of a floor and two heads, where they lay corn, they call it a barn of two bays. These bays are from fourteen to twenty feet long.

BAY denotes likewise a pond head, made to keep in store of water for driving the wheels of the furnace or hammer belonging to an iron-mill, by the stream that comes thence thro' a floodgate called the pen-stock.

BAY is also one of the colours of the hair of horses, inclining to red, and coming pretty near the colour of a chestnut. There are five different gradations of the bay colour, viz. chestnut-bay, light-bay, yellow-bay or dun-bay, bloody-bay, which is also called scarlet-bay, and the brown-bay.

BAY, among huntsmen. Deer are said to stand at bay, when after being hard run, they turn head against the hounds.

BAY-YARN, a denomination sometimes given to woollen-yarn. See **YARN**.

BAY-TREE, } See the articles { **LAURUS**.
BAY-SALT, } { **SALT**.

BAYEUX, a city of Normandy, in France, about fifteen miles north-west of Caen; west longitude 50', north latitude 49° 20'.

BAYONET, in the military art, a short broad dagger, formerly with a round handle fitted for the bore of a firelock, to be fixed there after the soldier had fired; but they are now made with iron handles and rings, that go over the muzzle of the firelock, and are screwed fast, so that the soldier fires with his bayonet on the muzzle of his piece, and is ready to act against horse.

BAYONNE, a large city of Gascony, in France, situated on the river Adour, near the bay of Biscay, in 1° 20' west longitude, and 43° 30' north latitude.

BAYS, in commerce, a sort of open woollen stuff, having a long knap, sometimes frized, and sometimes not. This stuff is without wale, and is wrought in a loom with two treddles, like flannel. It is chiefly manufactured at Colchester and Bocking in Essex, where there is a hall called the Dutch bay-hall, or raw-hall. The exportation of bays was formerly much more considerable than at present, that the French have learned to imitate them. However, the English bays are still sent in great quantities to Spain and Portugal, and even to Italy. Their chief use is for dressing the monks and nuns, and for linings, especially in the army. The looking-glass makers also use them behind their glasses, to preserve the tin or quicksilver; and the case-makers to line their cases. The breadth of bays is commonly a yard and a half, a yard and three quarters, or two yards, by 42 to 48 in length. Those of a yard and three quarters are most proper for the spanish trade.

BAZAR, **BAZARI**, or **BAZAARD**, a place designed for trade among the eastern nations, particularly the Persians, some of which are open at top, like the market

places of Europe; others are covered with high vaulted ceilings, and adorned with domes to give light. In the first, they sell only the less precious and most bulky commodities; whereas in the latter, are the shops of those merchants who sell jewels, rich stuffs, wrought plate, &c.

BAZAS, a town of Guienne, in France, about thirty miles south of Bourdeaux: west lon. 25', and north lat. 44° 20'.

BAZAT, or **BAZA**, in commerce, a long fine spun cotton, which comes from Jerusalem, whence it is also called jerusalem-cotton.

BDELLIUM, a gum resin, somewhat resembling myrrh in appearance, brought from the Levant. It is met with in single drops, of a very irregular size, some of which are as large as a hazel nut. Its colour is dusky, and its taste bitterish. People are no more agreed about the true nature of bdellium than they are about the manner how it is produced: and it is much doubted whether the bdellium of the antients be the same with the modern kind. It is allowed to be an emollient and discutient, and to be a powerful aperient and detergent, according to its age; for it is more so when new and fresh, than afterwards.

BEACHY-HEAD, a cape or promontory on the coast of Suffex, between Hastings and Shoreham.

BEACON, a public signal, to give warning against rocks, shelves, invasions, &c. See the article **SIGNALS**.

It is made by putting pitch barrels upon a long pole, and they put upon an eminence, so as they may be seen afar off; for the barrels being fired, the flame, in the night-time, and the smoke, in the day, give notice, and in a few hours may alarm the whole kingdom, upon an approaching invasion, &c.

BEACONAGE, a tax, or farm paid for the use and maintainance of a beacon. Trinity-house is empowered to levy this tax by act of parliament.

BEACONSFIELD, a market town of Buckinghamshire, twenty-two miles west of London: west longitude 30', and north latitude 51° 30'.

BEAD, a small glass ball, made in imitation of pearl, and used in necklaces, &c.

BEAD, in architecture, a round moulding, commonly made upon the edge of a piece of stuff, in the corinthian and roman orders, cut or carved in short embossments, like beads in necklaces.

Sometimes a plain bead is set on the edge

edge of each fascia of an architrave, and sometimes likewise an astragal is thus cut. A bead is often placed on the lining-board of a door-case, and on the upper edges of skirting-boards.

BEAD-PROOF, among distillers, a fallacious way of determining the strength of spirits, from the continuance of the bubbles, or beads, raised by shaking a small quantity of them in a phial. See **PROOF**.

BEAD-ROLL, among papists, a list of such persons for the rest of whose souls they are obliged to repeat a certain number of prayers, which they count by means of beads.

BEADLE, a messenger, or apparitor of a court, who cites persons to appear, and answer in the court to what is alledged against them.

BEADLE is also an officer at an university, whose chief business it is to walk before the masters with a mace, at all public processions, &c.

BEAGLE, the name of a particular kind of hunting-dogs, of which there are several sorts, *viz.* the southern beagle, which is something less than the deep-mouthed hound, and something thicker and shorter; the fleet northern, or cat beagle, which is smaller, and of a finer shape than the southern beagle, and is a hard runner: there is also a very small beagle, not bigger than a lady's lap-dog.

BEAK, *rostrum*, the bill or nib of a bird, from the form and structure of which, Linnaeus divides this whole family, or general class of animals, into six orders. See **BIRD** and **ORNITHOLOGY**.

BEAK, in architecture, the small fillet left on the head of a larmier, which forms a canal, and makes a kind of pendant.

Chin **BEAK**, a moulding the same as the quarter-round, except that its situation is inverted: this is very frequent in modern buildings, though few examples of it are found in the antient.

BEAK, or **BEAK-HEAD**, of a ship, that part without the ship, before the fore-castle, which is fastened to the stem, and is supported by the main knees.

BEAKED, in heraldry, a term used to express the beak or bill of a bird. When the beak and legs of a fowl are of a different tincture from the body, we say, beaked and membered of such a tincture.

BEAKING, among cock-fighters, is when one cock holds another by his bill, and strikes him with his spurs or gasters at the same time.

BEAM, in architecture, the largest piece of wood in a building, which lies cross the walls, and serves to support the principal rafters of the roof, and into which the feet of these rafters are framed. No building has less than two of these beams, *viz.* one at each end. Into these the girders of the garret roof are also framed; and if the building be of timber, the teazle tenons of the posts are framed into them. The proportion of beams in or near London, are fixed, by statute, as follows: a beam fifteen feet long, must be seven inches on one side its square, and five on the other: if it be sixteen feet long, one side must be eight inches, the other six, and so proportionably to their lengths. In the country, where wood is more plenty, they usually make their beams stronger.

BEAMS of a ship, are the great main cross-timbers which hold the sides of the ship from falling together, and which also support the decks and orlops: the main beam is next the main mast, and from it they are reckoned by first, second, third beam, &c. the greatest beam of all, is called the mid-ship beam. See **SHIP**.

BEAM COMPASS, an instrument consisting of a square wooden or brass beam, having sliding sockets, that carry steel or pencil points: they are used for describing large circles, where the common compasses are useless.

BEAM, in heraldry, the term used to express the main horn of a hart or buck.

BEAM, among hunters, the main stem of a deer's head, or that part which bears the antlers, royals, and tops.

BEAM is also the name of a sort of fiery meteor in the shape of a pillar; also a ray of the sun.

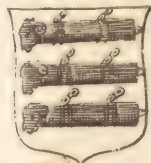
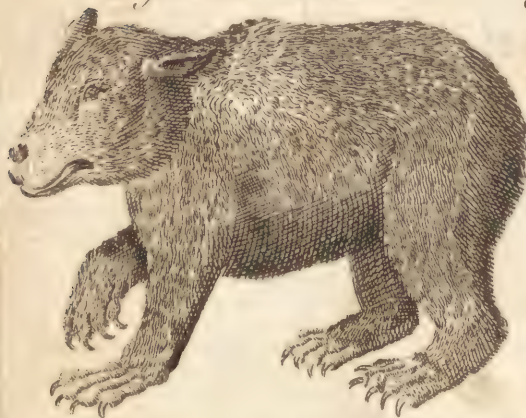
BEAM-FILLING, in building, the filling up of the vacant space between the rafter and roof, with stones or bricks laid between the rafters on the rafter, and plastered on with loam, where the garrets are not pargeted or plastered, as in country places, where they do not parget or plaster their garrets.

BEAM of an anchor, the longest part of it, called also the shank. See **ANCHOR**.

BEAM-FEATHERS, in falconry, the longest feathers of a hawk's wing.

BEAM-FISH, a sea-monster, like a pike, a dreadful enemy to mankind, seizing like a blood-hound, and never letting go, if he gets fast hold. The teeth of this fish are so venomous, that unless an antedote be



Fig. 1. BARBED CROSS.*Fig. 2.*
BARON'S CORONET.*Fig. 3.* BAR*Fig. 4.*
BAR GEMEL.*Fig. 5.*
BARRULY, or BARRY.*Fig. 6.*
BARRY-BENDY.*Fig. 7.* BASALTES.*Fig. 8.*
BASTON.*Fig. 9.*
BATTERING RAMS.*Fig. 10.* BEAR, *URSUS*.*Fig. 11.* BELEMNITE.

be immediately applied, the least touch of them is mortal.

BEAM also denotes the lath, or iron, of a pair of scales; sometimes the whole apparatus for weighing of goods is so called: thus we say, it weighs so much at the king's beam.

BEAM of a plough, that in which all the parts of the plough-tail are fixed.

It is commonly made of ash, and is eight feet long, but in the four coultured plough it is ten feet long. See **PLOUGH**.

BEAM, or **ROLLER**, among weavers, a long and thick wooden cylinder, placed lengthways on the back part of the loom of those who work with a shuttle.

That cylinder, on which the stuff is rolled as it is weaved, is also called the beam or roller, and is placed on the fore part of the loom.

BEAN, *faba*, in botany, makes a distinct genus of plants, according to Tournefort, but is comprehended by Linnæus under *vicia*. See the article **VICIA**.

Beans of all kinds ought to be sown much thinner than is the common practice, by which means the produce will be greatly increased.

BEAR, *ursus*, in zoology, a genus of quadrupeds, of the order of the *fera*, or beasts of prey; distinguished by having only four teats, two on the breast, and two on the belly; also feet formed for climbing or walking, with five toes on each.

The tail of a common bear is abrupt; its fore teeth are of a conic figure: the canine teeth are placed at a distance from the grinders, and are two on each side; and the penis is long.

It is a large, but unlighty animal, and grows to different sizes, in different places, from that of a mastiff dog, to that of a small heifer. It is covered with a thick and deep fur; the head is large and long; the neck short, and very thick; the eyes are small, the thighs are long, but the under part of the legs short, and it has a knee-pan at that joint. It is a native of America, and of many of the northern parts of Europe. See plate **XXVI.** fig. 10.

There is another bear, with an elongated tail, frequent in the northern parts of Europe, and is otherwise much the same with that already described.

BEAR, *ursa*, in astronomy. See **URSA**.

BEAR, in heraldry. He that has a coat of arms is said to bear in it the several charges or ordinaries that are in his escutcheon.

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BEAR, in gunnery. A piece of ordnance is said to come to bear, when it lies right with, or directly against the mark.

BEARALSTON, a borough of Devonshire, situated on the river Tamar, about ten miles north of Plymouth: west longitude $4^{\circ} 30'$, north latitude $50^{\circ} 35'$. It sends two members to parliament.

BEAR'S BREECH, in botany, the English name of a genus of plants called by botanists *acanthus*. See **ACANTHUS**.

BEARD, the hair growing on the chin, and adjacent parts of the face, chiefly of adults and males. See **HAIR**.

Various have been the ceremonies and customs of most nations in regard of the beard. The Tartars, out of a religious principle, waged a long and bloody war with the Persians, declaring them infidels, merely because they would not cut their whiskers, after the rite of Tartary: and we find, that a considerable branch of the religion of the antients, consisted in the management of their beard.

Ecclesiastics have sometimes been enjoined to wear, and at other times have been forbid the wearing, the beard; and the greek and romish churches have been a long time by the ears, about their beards. To let the beard grow, in some countries, is a token of mourning, as to shave it is the like in others.

The Greeks wore their beards till the time of Alexander the great, that prince having ordered the Macedonians to be shaved, for fear it should give a handle to their enemies: the Romans did not begin to shave till the year of Rome 454. Nor did the Russians cut their beards till within these few years, that Peter the great, notwithstanding his injunction upon them to shave, was obliged to keep on foot a number of officers to cut off, by violence, the beards of such as would not otherwise part with them.

BEARD of a comet, the rays which the comet emits towards that part of the heaven to which its proper motion seems to direct it: in this the beard of a comet is distinguished from the tail, which is understood of the rays emitted towards that part from whence its motion seems to carry it.

BEARDED HUSK, among florists, is a rose husk, or other such like husks that are hairy on the edges.

BEARD of a horse, that part underneath the lower mandible on the outside and above

the chin, which bears the curb. It is also called the chuck.

It should have but little flesh upon it, without any chops, hardness or swelling, and neither too high raised nor too flat, but such as the curb may rest in its right place.

BEARER, in a general sense, one that carries burdens, letters, &c.

BEARER, in architecture, a post, or brick wall, trimmed up between the two ends of a piece of timber, to shorten its bearing, or to prevent its bearing with the whole weight at the ends only.

BEARER of a bill of exchange, the person in whose hands the bill is, and in favour of whom the last order was made.

When a bill is made payable to the bearer, it is understood to be payable to him in whose hands it is, after it becomes due. See the article **BILL**.

BEARERS, in heraldry. See the article **SUPPORTERS**.

BEARERS is also applied to those who are appointed, by every parish, to carry the corps of dead persons to the grave.

BEARING, in navigation and geography, the situation of one place from another, with regard to the points of the compass; or the angle which a line, drawn thro' the two places, makes with the meridians of each.

The bearings of places on the ground, are usually determined from the magnetic needle, in the managing of which consists the principal part of surveying, since the bearing or distance of a second point from a first being found, the place of that second is determined; or the bearings of a third point from two others, whose distance is known, being found, the place of the third is determined instrumentally. But to calculate trigonometrically, there must be more data.

BEARING, in the sea language. When a ship sails towards the shore, before the wind, she is said to bear in with the land or harbour. To let the ship sail more before the wind, is to bear up. To put her right before the wind, is to bear round. A ship that keeps off from the land, is said to bear off. When a ship that was to windward comes under another ship's stern, and so gives her the wind, she is said to bear under her lee, &c. There is another sense of this word, in reference to the burden of a ship; for they say a ship bears, when having too slender or lean a quarter, she will sink too deep into the water with an over light

freight, and thereby can carry but a small quantity of goods.

BEARING of a piece of timber, among carpenters, the space either between the two fixed extremities thereof, when it has no other support, which they call bearing at length, or between one extreme and a post, brick wall, &c. trimmed up between the ends to shorten its bearings.

High BEARING cock, one larger than the cock he fights with.

BEARING claw, among cock-fighters, the foremost toes of a cock. If these are hurt or gravelled, he cannot fight.

BEARN, a province in the south of France, bounded by Gascony on the north, and by the Pyrenean mountains, which separate it from Spain, on the south.

BEAST, *la bête*, among gamesters, a game at cards, played in this manner: the best cards are the king, queen, &c. whereof they make three heaps, the king, the play, and triolet.

Three, four, or five may play; and to every one is dealt five cards. However, before the play begins, every one stakes to the three heaps. He that wins most tricks, takes up the heap called the play: he that hath the king, takes up the heap so called; and he that hath three of any sort, that is, three fives, three fives, three sixes, &c. takes up the triolet-heap.

BEAST, in a general sense, an appellation given to all four-footed animals, fit either for food, labour, or sport.

BEASTS of burden, in a commercial sense, all four-footed animals which serve to carry merchandizes on their backs. The beasts generally used for this purpose, are elephants, dromedaries, camels, horses, mules, asses, and the sheep of Mexico and Peru.

BEASTS of the chase are five, *viz.* the buck, the doe, the fox, the roe, and the martin.

BEASTS and fowls of the warren are the hare, the coney, the pheasant, and partridge.

BEASTS of the forest are the hart, hind, hare, boar, and wolf.

BEAT, in a general signification, signifies to chastise, strike, knock, or vanquish.

This word has several other significations in the manufactures, and in the arts and trades. Sometimes it signifies to forge and hammer, in which sense smiths and farriers say, to beat iron; sometimes it means to pound, to reduce into powder: thus we say, to beat drugs,

to beat pepper, to beat spices; that is to say, to pulverise them.

BEAT, in fencing, denotes a blow or stroke given with the sword. See **BEATING**.

There are two kinds of beats; the first performed with the foible of a man's sword on the foible of his adversary's, which in the schools is commonly called *baterie*, from the French *batre*, and is chiefly used in a pursuit, to make an open upon the adversary. The second and best kind of beat is performed with the fort of a man's sword upon the foible of his adversary's, not with a spring, as in binding, but with a jerk, or dry beat; and is therefore most proper for the parades without or within the sword, because of the rebound a man's sword has thereby from his adversary's, whereby he procures to himself the better and surer opportunity of riposting.

BEAT, in the manege. A horse is said to *beat the dust*, when, at each stroke or motion, he does not take in ground or way enough with his fore-legs. He is more particularly said to *beat the dust at terra a terra*, when he does not take in ground enough with his shoulders, making his strokes or motions too short, as if he made them all in one place. He *beats the dust* at curvets, when he does them too precipitately, and too low. He *beats upon a walk*, when he walks too short, and thus rides but little ground, whether it be in straight lines, rounds, or passings.

BEAT upon the band, in the manege. See the article **CHACK**.

BEAT of drum, in the military art, is to give notice by beat of drum of a sudden danger; or, that scattered soldiers may repair to their arms and quarters, is to beat an alarm, or to arms; also to signify, by different manners of sounding a drum, that the soldiers are to fall on the enemy; to retreat before, in, or after an attack; to move, or march, from one place to another; to treat upon terms, or confer with the enemy; to permit the soldiers to come out of their quarters at break of day; to order to repair to their colours, &c. is to beat a charge, a retreat, a march, &c.

BEATER is applied, in matters of commerce, to divers sorts of workmen, whose business is to hammer or flatten certain matters, metals, or the like.

In this sense we meet with gold-beater, plaster-beater, cement-beater, mortar-beater, &c.

BEATIFIC VISION. See **VISION**.

BEATIFICATION, among papists, an act by which the pope declares a person beatified, or blessed, after death.

This is the first step towards canonization, and differs from it; because in the former, the pope does not act as a judge, determining the state of the beatified, but only gives a privilege to certain persons to honour him by a particular religious worship, without incurring the penalty of superstitious worship: whereas in canonization, the pope speaks like a judge, and determines upon the state of the canonized.

No person can be beatified till fifty years after his or her death; all certificates or attestations of virtues and miracles are examined before the congregation of rites: the examination continues for several years, after which his holiness decrees the beatification. The corps and relics of the future saint are thenceforth exposed to the veneration of every body; his images are crowned with rays, and a particular office is set apart for him.

BEATING, in a general sense, the chastizing, or punishing a person for a real or supposed offence.

BEATING, or PULSATION, in medicine, the reciprocal agitation, or palpitation of the heart, or pulse. See **PULSE**.

There are some physicians that distinguish eighty-one different pulsations, and fifteen compound ones. They compute sixty beats in the space of one minute in a temperate man; but it is certain, that generally we find a greater number.

BEATING gold and silver. See **GOLD**.

BEATING with hunters, a term used of a stag, which runs first one way, and then another. He is then said to beat up and down.

The noise made by conies in rutting time is also called beating or tapping.

BEATING, in fencing. See **BEAT**.

Beating differs from binding, as the latter is performed with a kind of spring, and that, in performing it, a man keeps by, and engages more his adversary's sword, than when he beats; for which reason binding is chiefly proper when a man intends to become the pursuer; whereas beating, being performed by a kind of jerk, or dry stroke, is chiefly designed for the defensive part, or parade, that a man may hereby return the quicker riposte from it; seeing his sword, if the beat be rightly performed, will, in some measure, rebound from his adversary's

sword, and so assist him to make the quicker risposte. Add, that the jerk or dry beat upon the parade forces the adversary's sword considerably out of the freight line, which makes the risposte still the more certain, and which cannot be done with near that certainty nor strength with the ordinary french parade, within and without the sword from the quarte guard.

BEATING time, in music, a method of measuring and marking the time for performers in concert, by a motion of the hand or foot up and down successively, and in equal times. Knowing the true time of a crotchet, and supposing the measure actually subdivided into four crotchets, and the half measure into two, the hand or foot being up, if we put it down with the very beginning of the first note or crotchet, and then raise it with the third, and then down with the beginning of the next measure; this is called beating the time; and by practice, a habit is acquired of making this motion very equal. Each down and up is sometimes called a time, or measure.

The general rule is, to contrive the division of the measure so, that every down and up of the beating shall end with a particular note, on which very much depends the distinctness, and, as it were, the sense of the melody. Hence the beginning of every time, or beating in the measure, is reckoned the accented part thereof.

Beating time is denoted, in the Italian music, by the term *a battuta* which is usually put after what they call *recitativo*, where little or no time is observed, to denote, that here they are to begin again to mark or beat the time exactly.

BEATS, in a watch or clock, are the strokes made by the fangs or pallets of the spindle of the balance, or of the pads in a royal pendulum. To find the beats of the balance in all watches going, or in one turn of any wheel. Having found the number of turns which the crown-wheel makes in one turn of the wheel you seek for, those turns of the crown-wheel multiplied by its notches, give half of the number of beats in that one turn of the wheel. For the balance or swing has two strokes to every tooth of the crown-wheel, inasmuch as each of the two pallets hath its blow against each tooth of the crown-wheel; whence it is that a pendulum that beats seconds has in its crown wheel only thirty teeth.

To explain this, suppose the numbers

of a sixteen-hour watch, in which the pinion of report is 4, the dial-wheel 32, the great wheel 55, the pinion of the second wheel 5, &c. The number of the notches in the crown-wheel 17 being multiplied into 6336 (the product arising from the continual multiplication of the quotients 8, 11, 9, 8) gives 107712 for half the number of beats in one turn of the dial-wheel; for 8 times 17 is 136, which is half the number of beats in one turn of the centrate wheel 40; and 9 times 136 is 1224, the half beats in one turn of the second wheel; and 11 times 1224, is 13464, the half beats in one turn of the great wheel 55; and 8 times 13464 makes 107712. If you multiply this by the two pallets, that is, double it, the product will be 215424, which is the number of beats in one turn of the dial-wheel, or twelve hours.

$$\begin{array}{r} 4)32(8 \\ 5)55(11 \\ 5)45(9 \\ 5)40(8 \end{array}$$

17

To know how many beats this watch has in an hour, divide the beats in twelve hours into twelve parts, and it gives 17952, the train of the watch, or beats in an hour. By the beats and turns of the fusy, the hours that any watch will go, may be found thus. As the beats of the balance in one hour: are to the beats in one turn of the fusy :: so is the number of the turns of the fusy : to the continuance of the watch's going. Thus 20196 : 26928 :: 12 : 16.

To find the beats of the balance in an hour, the proportion is, as the hours of the watch's going, to the number of the fusy :: so are the beats in one turn of the fusy : to the beats in an hour. Thus, 16 : 12 :: 26928 : 20196.

BEAUCAIRE, a town of Languedoc, situated on the western shore of the river Rhone, about seven miles north of Arles: east longitude $4^{\circ} 40'$ and north latitude $43^{\circ} 40'$.

BEAUCE, the northern division of the province of Orleanois, in France.

BEAVER, FIBER, in zoology, a genus of quadrupeds, of the order of the glires, called by Linnæus *castor*. See **CASTOR**. The beaver has two very different sorts of hair, *viz.* one kind long and coarse, and another soft and fine; and of this last it is, that the fine beaver-hats are manufactured.

BEAUFET, or BUFFET. See the article **BUFFET**.

BEAUFORT, a town of the dutchy of Anjou in France, situated fifteen miles east

east of Angers: east longitude 15° , and north latitude $47^{\circ} 30'$.

BEAUFORT is also a town of Savoy, about thirty miles east of Chambery: east longitude $6^{\circ} 40'$, and north latit. $45^{\circ} 30'$.

BEAUGENCY, a town of Orleans, in France; situated on the river Loire, about fifteen miles south-west of Orleans, in $1^{\circ} 36'$ east long. and $47^{\circ} 48'$ north latitude.

BEAUJEU, a town of the Lyonois in France, about twenty-five miles north-west of Lyons: east longitude $4^{\circ} 30'$, and north latitude $46^{\circ} 15'$.

BEAUJOLOIS, the south-east division of the Lyonois, and so called from Beajeu.

BEAUMARIS, a market town of Anglesey in Wales; situated about nine miles north of Bangor, in $4^{\circ} 15'$ west longitude, and $53^{\circ} 25'$ north latitude.

BEAUMONT, a town of Hainalt, about seventeen miles south east of Mons: east longitude $4^{\circ} 15'$ and north latitude $50^{\circ} 20'$.

BEAUMONT is also a town of France, about sixteen miles south of Alençon: east longitude 5° , and north latitude $48^{\circ} 20'$.

BEAU-PLEADER, a writ upon the statute of Marlbridge, whereby it is ordained, that no fine shall be taken of any person in any court, for fair-pleading; that is, for not pleading fairly, and to the purpose. Beau-pleadings is in respect to vicious pleadings.

BEAUTY, a general term for whatever excites in us pleasing sensations, or an idea of approbation.

Hence the notion annexed to beauty may be distinguished into ideas and sensations, the former of which occupy the mind; the latter affect the heart: thus, an object may please the understanding without interesting the sense; and on the other hand, we perceive agreeable sensations, excited by some objects, whose ideas are no way related to any thing that is praiseworthy.

It is, on account of these distinctions, that the difficulty lies of fixing an universal characteristic of beauty, in regard that the persons vary, according to their different turns of mind, and habitudes of body, and consequently the relations of objects to those ideas and sensations do in like manner vary; whence arise the different opinions of beauty in painting, women, &c.

BEAUTY, in architecture, painting, and other arts, is the harmony and justness of the whole composition taken together.

BEAUTY of Christ's person, among divines, has been a subject of great dispute in

all ages of the church; some magnifying the external beauty of his body, others defending the literal meaning of Isaiah's description of the Messiah, as without form and comeliness.

BEAUVIN, a city of Burgundy, in France, about fifteen miles north of Chalons: east longitude $4^{\circ} 50'$, and north latitude 47° .

BEAUVOIR, a port-town of France, about twenty-five miles south-west of Nantz: west longitude 2° and north latitude 47° .

BEAUVOIS, a city of the isle of France, about forty-three miles north of Paris: east long. $2^{\circ} 20'$ and north lat. $49^{\circ} 30'$.

BECAH, or **BEKAH**, in hebrew antiquity, a jewish coin, equal to $13\frac{1}{16}$ d. of our money.

BECALM, in a general sense, signifies to appease, to allay.

BECALM, in the sea language. A ship is said to be becalmed, when there is not a breath of wind to fill the sails, which is occasioned either by its being taken off by the interposition of the shore, or for want of any wind stirring.

BECANER, the capital of the territory of Becar in India, situated on the river Ganges, in 83° east longitude, and 28° north latitude.

BECHICS, medicines designed to relieve coughs, being the same with what we call pneumonics, thoracics, expectorants, and pectorals. See the articles **EXPECTORANTS** and **PECTORALS**.

BED, a convenience for stretching and composing the body on, for ease, rest, or sleep, consisting generally of feathers inclosed in a ticken case. There are varieties of beds, as a standing bed, a settee-bed, a tent-bed, a truckle-bed, &c.

All beds that are for sale, must be filled with one sort of stuffing only, on the pain of forfeiture; as the mixing of feathers, down, scalded feathers, dry pulled feathers, any ways together, is conceived to be contagious for a man's body to lie on. Also, bed-quilts, mattraffes, and cushions, stuffed with horse-hair, fen-down, goats-hair, and neat's-hair, which are dressed in lime, and in which the heat of a man's body will exhale, and cause to yield a noxious smell, are prohibited by statute.

The antient Romans had various sorts of beds, for various purposes: they had their chamber-bed, whereon they slept; their table-bed, whereon they eat, as they always eat lying; there being usually three persons to one bed, whereof the middle place, as well as the middle bed, was accounted the most honourable: they had also

also the bed whereon they studied, and that whereon the dead were carried to the funeral pile.

BED of justice, in the french customs, a throne upon which the king is seated, when he goes to the parliament. The king never holds a bed of justice unless for affairs that concern the state, and then all the officers of parliament are clothed in scarlet robes.

BED of the carriage of a great gun, a thick plank, that lies under the piece; being, as it were, the body of the carriage.

BED, in masonry, a course, or range of stones; and the joint of the bed is the mortar between two stones, placed over each other.

BED, in gardening, those square or oblong pieces of ground, in a garden, raised a little above the level of the adjoining ground, and wherein they sow seeds, or plant-roots.

HOT-BED. See the article **HOT-BED**.

BEDS of minerals, certain strata or layers of matter disposed over each other.

BED of snakes, a name given by hunters, to a knot of young ones.

BED-CHAMBER. See the articles **CHAMBER** and **APARTMENT**.

Lords of the BED-CHAMBER, in the british customs, ten lords who attend in their turns, each a week; during which time they lie in the king's bed-chamber, and wait on him when he dines in private.

BEDAL, a market-town of Yorkshire, eight miles south of Richmond: west longit. $1^{\circ} 20'$, north latit. $54^{\circ} 20'$.

BEDEREPE, a customary service, by which tenants were antiently bound to reap their landlord's corn in harvest time.

BEDFORD, the county town of Bedfordshire, situated on the river Ouse, about twenty-two miles south-west of Cambridge, in west longitude $20'$, and north latitude $52^{\circ} 10'$.

BEDLAM, or **BETHLEHEM**. See the article **BETHLEHEM**.

BED-MOULDING, in architecture, a term used for those members of a cornice, which are placed below the coronet; and now a days a bed-moulding usually consists of an ogée, a list, a large boudine, and another list under the coronet.

BEDOUINS, in the arabian customs, tribes of Arabs, who live in tents, and are dispersed all over Arabia, Ægypt, and the north of Africa.

BEDWIN, a borough-town of Wiltshire, about eighteen miles north-west of Salis-

bury, in west longitude $1^{\circ} 40'$, and north latitude $51^{\circ} 25'$.

BEE, apis, in zoology. See **APIS**.

Authors enumerate a great many species of this insect, but the common hive-bee merits particular consideration.

These are of three sorts, *viz.* 1. The queen-bee, which is somewhat larger, and of a brighter red than the rest. Her business is to conduct a new swarm, and deposit eggs for another brood; and so great is her fertility, that she frequently brings forth many thousands of young in a year. 2. The drones which have no stings, are of a darker colour than the rest, and are thought to be the males. 3. The honey-bees, or working-bees, which are by far more numerous than the other two kinds.

Concerning the breeding and management of bees, together with the produce of their industry, see the articles **SWARM**, **HIVE**, **HIVING**, **HONEY**, **WAX**, &c.

BEE-EATER, merops, in zoology. See the article **MEROPS**.

BEE-FLY, or DRONE-FLY. See the article **DRONE-FLY**.

BEECH, fagus, in botany. See **FAGUS**.

The wood of the beech-tree is of a whitish-colour, and much coveted by turners for making ladles, trays, bellows, &c.

BEECH-GALLS, hard protuberances found on the leaves of the beech, wherein are lodged the maggots of a certain fly.

BEECH-MAST, the fruit of the beech-tree, said to be good for fattening hogs, deer, &c.

BEECH-OIL, an oil drawn by expression, from the mast of the beech-tree, after it has been shelled and pounded.

This oil is very common in Picardy, and used there, and in other parts of France, instead of butter; but most of those who take a great deal of it, complain of pains and a heaviness of the stomach.

BEELE, a kind of pick-ax, used by the miners for separating the ores from the rocks in which they lie: this instrument is called a tubber by the miners of Cornwall.

BEER, a common and well-known liquor, made with malt and hops, and used in those parts of Europe where vines will not grow, and where cyder is scarce. See the articles **MALT**, **BREWING**, &c. It is chiefly distinguished from ale by the quantity of hops, which is greater in beer, and thereby renders the liquor bitterer, and fitter to keep.

There are various differences in beer, pro-

proceeding from the ways of brewing, from the different countries or climates, from the water that is used, from the time spent about it, from the ingredients made use of, and the proportions of these ingredients.

That beer is reckoned the best which is clear, and of a pale colour, of a pungent and agreeable taste, that sparkles upon being poured into a glass, and is neither too old or too new.

Aigre-BEER is used by callico-printers, chemists, lapidaries, scarlet-dyers, vinegar-merchants, and white-lead men.

Bottling of BEER is best performed in this manner: First, take clear water, or such as has been well impregnated with the essence of some herb; to every quart of which add half a pound of sugar. Afterwards, having caused this water to be gently boiled and scummed, add a few cloves: let it cool in order to have barm or yeast put to it, and being brought to work, take off the scum again. That done, while it is in a smiling condition, put three spoonfuls into each bottle; which is to be filled up with beer, and securely corked. A few crystals of tartar do also very well in bottled beer; especially if a few drops of the essence of barley, wine, or some essential spirits be added.

BEER, among weavers, a term that signifies nineteen ends of yarn, running all together the whole length of the cloth.

BEER-MEASURE. See the article *MEASURE*.

BEESTINGS, a term used by country-people for the first milk taken from a cow after calving.

BEET, *beta*, in botany, a genus of plants, of the *pentandria-digynia* class, with no flower-leaves: the fruit is a capsule placed within the base of the cup, with one cell, containing a single kidney-shaped compressed seed, and surrounded every way with the cup. The beet is more used as a pot-herb than physically. It is one of the five emollient herbs.

BEETLE, *scarabeus*, in the history of insects. See the article *SCARABÆUS*.

BEETLE also denotes a wooden instrument for driving piles, &c.

It is likewise called a stamper, and by paviors a rammer.

BEFORT, a town of Alsace, subject to France, and situated about fifteen miles north of Basil, in east longitude 7° , and north latitude $47^{\circ} 35'$.

BEG, or *BEY*, in the turkish affairs. See the article *BEY*.

BEGGAR, one who begs alms.

Beggars pretending to be blind, lame, &c. found begging in the streets, are to be removed by constables; and if they refuse to be so removed, shall be publicly whipt.

BEGHARDI, *beguardi*, a certain sect of heretics, which arose in Germany, and in the Low-countries, about the end of the thirteenth century. They made profession of monastical life, without observing celibacy; and maintained, if they are not scandalized by the monks, that man could become as perfect in this life, as he shall be in heaven; that every intellectual nature is of itself happy, without the succour of grace; and that he who is in this state of perfection ought to perform no good works, nor worship the host.

BEGLERBEG, a governor of one of the principal governments in the turkish empire. There are two sorts of beglerbeks; the one have a certain revenue assigned upon the cities, burroughs and villages of their government, which they raise by power of the commission granted to them by the sultan; the others have a certain rent paid by the treasurer of the grand signior. They are become almost independent, and have under their jurisdiction, several sangiacs or particular governments, and begs, agas, and other officers who obey them.

BEGONIA, in botany, a genus of the polygamia monoecia class of plants, without any calyx; the corolla of the male flower consists of four patent regular petals, that of the hermaphrodite flower consists of five oblong heart-shaped patent petals; the fruit is a trigonal capsule, divided into three cells, and containing a great number of small seeds.

BEGUINS, congregations of devout young women, who maintain themselves by the work of their hands, leading a middle kind of life between the secular and religious. These societies consist of several houses placed together in one inclosure, with one or more churches, according to the number of beguins.

There is in every house a prioress, without whose leave they cannot stir out. Their vow is conceived in these terms: *I promise to be obedient and chaste, as long as I continue in this beguinage*. They observe a three years novitiate, before they take the habit, and the rector of the parish

fish is their superior, but can do nothing without the advice of eight beguins. They are established in several parts of Flanders.

BEHEADING, *decollatio*, a capital punishment, inflicted by cutting off the head with an ax, sword, &c.

Among the Romans beheading was a military punishment performed at first with an ax, but afterwards with a sword, as done at present in Holland and France. In England the ax is preferred, and in Scotland they use, for this purpose, a machine called a maiden. See MAIDEN.

BEHEN, in the materia medica, the name of two roots, the one white, the other red; both accounted cordials and restoratives, but the white one to possess these qualities in the highest degree. They are likewise said to be good in nervous cases; but to what plant they belong is not known.

BEJA, a city of Alentejo, in Portugal, west longitude $8^{\circ} 40'$, and north latitude $37^{\circ} 55'$.

BEICHLINGEN, a city of Thuringia, in the circle of upper Saxony in Germany: east long. $11^{\circ} 25'$, and north lat. $51^{\circ} 20'$.

BEILA, a town of Piedmont in Italy, about thirty-two miles north of Turin: east long. $7^{\circ} 45'$, and north lat. 45° .

BEILSTEIN, a town of the landgraviate of Hesse in Germany; situated about thirty-two miles north of Mentz, in 8° east longitude, and $50^{\circ} 30'$ north lat.

BEIRA, a province of Portugal, lying between Entre-minho-Duro, on the north, and Eitremadura on the south.

BEIZA, or **BEIZATH**, in hebrew antiquity, a word signifying an egg, was a certain measure in use among the Jews. The beiza was likewise a gold coin, weighing forty drachms, among the Persians, who gave out that Philip of Macedon owed their king Darius a thousand beizaths or golden eggs for tribute money; and that Alexander the Great refused to pay them, saying, that the bird which laid these eggs was flown into the other world.

BELCASTRO, a city of Calabria, in the kingdom of Naples: east longitude $17^{\circ} 15'$, and north latitude $39^{\circ} 15'$.

BELCOE, a town of Ireland, situated on Lough-ninny, in the county of Farnagh, and province of Ulster: west longitude $8^{\circ} 6'$, and north latitude $54^{\circ} 5'$.

BELEM, a fortress on the north side of the river Tagus, about three miles west of Lisbon.

BELEMNITÆ, or **BELEMNITES**, in

natural history, usually called thunder-bolt, is of the number of those fossils, concerning which naturalists still dispute whether it be of marine and animal origin, or a native fossile substance.

The belemnites, are all composed of several thin coats or crusts, encircling one another, and all of a striated texture; they have usually a hollow in the middle, of a conical shape; sometimes empty, and sometimes filled up with spar, pyrites, or a marine shell of the strait concave-kind. They have usually a chink running down the whole length of the body, and sometimes two or three, but the additional ones usually begin at the apex of the stone, and run up but a little way. Their figure is sometimes conic, sometimes cylindric: some are of all the intermediate figures between conic and cylindric, and some almost orbicular. They are of various sizes, from a quarter of an inch to eight inches in length, and though always of the same structure, are of various colours, and they have a peculiar smell when scraped.

Belemnites are found in all sorts of strata, sometimes in clay, sometimes among gravel, often immersed in beds of stone, often in loose flints, and are sometimes found covered with a sparry crust of a different texture from that of the body of the mass. See plate XXVI. fig. 11.

BELEZERO, the capital of a province of the same name, in Russia, situated on the south east shore of the white lake: east longitude 36° , and north lat. $60^{\circ} 50'$.

BELFAST, a port-town of Ireland, in the county of Antrim, and province of Ulster: west longitude $6^{\circ} 15'$, north latitude $54^{\circ} 38'$.

BELFRY, that part of a steeple where bells are hung, or the timber frame whereby they are supported.

BELGARDEN, a town of eastern Pomerania, in Germany, subject to Prussia: east longitude $16^{\circ} 5'$, and north lat. 54° .

BELGOROD, the capital of a province of the same name, in Russia, situated almost in the middle of that empire: east longitude 37° , and north latitude $51^{\circ} 20'$.

BELGOROD is also a fortified town of Bessarabia, in Turkey; situated on the Black-sea, at the mouth of the river Neister: east longitude 31° , and north latitude $46^{\circ} 30'$.

BELGRADE, the capital of the province of Servia, in european Turkey; situated on the south side of the Danube, in east longitude $21^{\circ} 20'$, and north lat. 45° .

It was yielded to the Turks in 1739.

BELI *oculus*, in natural history. See the article **OCULUS**.

BELIEF, in a general and natural sense, signifies a persuasion or strong assent of the mind to any proposition; but, in a more restrained and technical sense, it imports that kind of assent which is founded on the authority or testimony of some persons attesting the truth of any matter proposed.

Belief is generally distinguished into divine and human, not with regard to the proposition believed, but with regard to the testimony on which we believe it. When God reveals any thing to us, this gives us the testimony of divine belief. See the article **FAITH**.

But what man only acquaints us with, produces only a human belief. See the article **EVIDENCE**.

BELL, a well-known machine, ranked by musicians among the musical instruments of percussion.

The metal of which a bell is made, is a composition of tin and copper, or pewter and copper: the proportion of one to the other is almost twenty pounds of pewter, or twenty-three pounds of tin, to one hundred weight of copper.

Bell-metal is prohibited to be imported, as are hawk-bells, &c.

The constituent parts of a bell are the body or barrel, the clapper on the inside, and the ear or cannon on which it hangs to a large beam of wood.

The sound of a bell consists in a vibratory motion of its parts, much like that of a musical chord. The stroke of the clapper must necessarily change the figure of the bell, and of a round make it oval; but the metal having a great degree of elasticity, that part will return back again which the stroke drove farthest off from the center, and that even some small matter nearer the center than before; so that the two parts which before were extremes of the longest diameter, do then become those of the shortest; and thus the external surface of the bell undergoes alternate changes of figure, and by that means gives that tremulous motion to the air, in which the sound consists.

M. Perrault asserts, that the sound of the same bell is a compound of the sound of the several parts of it; so that where the parts are homogeneous, and the dimensions of the figure uniform, there is such a perfect mixture of all these sounds, as constitutes one uniform, smooth, even sound, and the contrary circumstances

produce harshness. To confirm this, he observes the different tune of the bell, according to the part of it that is struck, and yet strike it where you will there is a motion of all the parts. He therefore considers bells as composed of an infinite number of rings, which have different tones according to their different dimensions, as chords of different lengths have; which, when struck, the vibrations of the parts immediately struck determine the tone; being supported by a sufficient number of consonant tones in other parts.

It has been found by experience, that bells are heard further, if placed on plains, than on hills; and still farther in vallies than on plains; the reason of which may be easily comprehended, by considering, that the higher the sonorous body is, the medium is the rarer, and consequently receives the less impulse, and the vehicle is the less proper to convey it to a distance.

The bell-founders distinguish two sorts of proportions, *viz.* the simple, and the relative. The simple proportions are those which ought to be between the several parts of a bell, and which experience has shewed to be necessary towards rendering it sweetly sonorous. The relative proportions are those which establish a requisite relation between one bell and another, so that their combined sounds may effect a certain determined harmony.

The use of bells is very antient, as well as extensive. We find them among the Jews, Greeks, Romans, Christians, and Heathens, variously applied, as on the necks of men, beasts, birds, horses, sheep; but chiefly hung in buildings, either religious, as in churches, temples, and monasteries; or civil, as in houses, markets, baths; or military, as in camps and frontier towns.

In the antient monasteries, we find six kinds of bells enumerated by Durandus; *viz.* *Squilla*, rung in the refectory; *cymbalum*, in the cloister; *nola*, in the choir; *nolula* or *duple*, in the clock; *campana*, in the steeple; and *signum*, in the tower.

Diving Bell. See **DIVING-BELL**.

BELL-FOUNDRY. See the article **FOUNDRY OF BELLS**.

BELL-FLOWER, *campanula*, in botany. See the article **CAMPANULA**.

BELL-WEED, *jacea nigra*, in botany. See the article **JACEA**.

BELLADONA, in botany, a genus of the pentandria-monogynia class of plants, call-

de by Linnæus atropa. See the-article
ATROPA.

The flower consists of a single infundibuliform petal, divided into five segments at the mouth; and its fruit is a bilocular globose berry, containing a number of kidney-shaped seeds. See plate XXVII. fig. 1.

BELLCLARE, a town of Ireland in the county of Sligo, and province of Connaught, about twenty-three miles south-west of Sligo: west longitude $9^{\circ} 5'$, and north latitude $53^{\circ} 55'$.

BELLENTS, a city of Switzerland, in east longitude 9° , and north latitude 46° .

BELLESME, a town of the Orleansois in France: east long. $40'$, north lat. $48^{\circ} 30'$.

BELLEÏ, a town of Burgundy, in France, situated on the frontiers of Savoy, about sixteen miles north-west of Chamberry: east longit. $5^{\circ} 20'$, north lat. $45^{\circ} 40'$.

BELLEVILLE, a town of the Lyonsis, in France, about nineteen miles north of Lyons: east longitude $4^{\circ} 45'$, north latitude $46^{\circ} 8'$.

BELLIS, **DAISY**, in botany, a genus of the *syngenesia polygamia-superflua* class of plants, the compound flower of which is radiated, and the particular hermaphrodite one of a funnel shape: it has no other pericarpium than the cup; in which is contained a single oval compressed seed, placed vertically. See plate XXVII. fig. 2.

Culture produces a great number of variations in the colour and duplicature of the flower, all of which have been described by authors as different species; whence this plant has been divided into almost fifty.

BELLEISLE, an island on the coast of Britany, in France: west longitude 8° , and north latitude $47^{\circ} 20'$.

BELLISLE is also an island of America, on the coast of New Britain.

It gives name to the streights which separate Newfoundland from New Britain: west longitude 58° north latitude 52° .

BELLON, a distemper common in countries where they smelt lead ores.

It is attended with languor, intolerable pains and sensation of gripings in the belly, and generally costiveness.

Beasts, poultry, &c. as well as men, are subject to this disorder: hence a certain space round the smelting-houses is called bellon-ground, because it is dangerous for an animal to feed upon it.

The method of cure, which has been found most successful in this distemper, is

giving crystals of tartar in small doses, and repeating the dose two or three times a day.

BELLONARIÏ, in roman antiquity, the priests of Bellona, who, in honour of that goddess, used to make incisions in their body; and after having gathered the blood in the palm of their hand, give it to those who were partakers of their mysteries.

BELLONIA, in botany, a genus of the *pentandria-monogynia* class of plants, whose flower, consisting of a single petal, is of the rotated kind; the fruit is a capsule of a turbinato-oval figure, surrounded by the cup, and containing only one cell, in which are numerous very small roundish seeds.

BELLOWING, among sportsmen, denotes the noise of roes in rutting time.

BELLOWS, a machine so contrived as to agitate the air with great briskness, expiring and inspiring it by turns, and that only from enlarging and contracting its capacity.

This machine is used in chambers and kitchens, in forges, furnaces and founderies, to blow up the fire: it serves also for organs and other pneumatic instruments, to give them a proper degree of air: all these are of various constructions, according to their different purposes, but in general they are composed of two flat boards, sometimes of an oval, sometimes of a triangular figure: two or more hoops, bent according to the figure of the boards, are placed between them; a piece of leather, broad in the middle, and narrow at both ends, is nailed on the edges of the boards, which it thus unites together: as also on the hoops which separate the boards, that the leather may the easier open and fold again; a tube of iron, brass, or copper is fastened to the undermost board, and there is a valve within that covers the holes in the underboard, to keep in the air.

Each pair of bellows imported is valued in the book of rates at three shillings and four-pence, and pays duty $7\frac{1}{2}\%$ d. whereof $6\frac{1}{8}\%$ d. is drawn back on exportation.

BELLUNO, the capital of the Bellunese, in the dominions of Venice, about forty miles north of Padua: east longitude $12^{\circ} 40'$, and north latitude $46^{\circ} 20'$.

BELLY, in anatomy, the same with what is more usually called abdomen, or rather the cavity of the abdomen. See the article **ABDOMEN**.

BELOMANCY, a sort of divination by means of arrows, practised in the east, and particularly in Arabia. Belomancy has been performed different ways, whereof one was this: suppose a parcel of arrows, eleven or more of them being put into a bag; these were afterwards drawn out, and according as they were marked or not, they judged of future events.

BELT, *balteus*, in the military art, a leathern girdle for sustaining the arms, &c. of a soldier.

BELTS, in astronomy, two zones, or girdles, surrounding the body of the planet of Jupiter, more lucid than the rest, and of unequal breadth.

BELTS, in geography, certain freights between the German ocean, and the Baltic. The belts belong to the king of Denmark, who exacts a toll from all ships which pass through them, excepting those of Sweden, which are exempted.

BELTURBET, a town of Ireland, in the county of Cavan and province of Ulster, situated upon the river Earn, about eight miles north of Cavan, in $7^{\circ} 35'$ west longitude, and $54^{\circ} 7'$ north latitude.

BELTZ, the capital of a palatinate of the same name, in the province of Red Rulisia, in Poland: east longitude 24° , and north latitude $50^{\circ} 5'$.

BELVIDERE, in the Italian architecture, &c. denotes either a pavilion on the top of a building, or an artificial eminence in a garden; the word literally signifying a fine prospect.

BELVIDERE, in geography, the capital of a province of the same name, on the western coast of the Morea, in 22° east longitude, and 37° north latitude.

BEMA, in ecclesiastical antiquity, denoted the most sacred part of a church, or that where the altar stood.

BEMA was also used for the bishop's throne, as well as for the ambo. See **AMBO**.

BEMSTER, a market-town of Dorsetshire, about twelve miles north-west of Dorchester, situated in $2^{\circ} 30'$ west longitude, and $50^{\circ} 45'$ north latitude.

BENCH, or **BANC**, in law. See **BANC**. *Free-BENCH* signifies that estate in copyhold lands, which the wife, being espoused a virgin, has after the decease of her husband, for her dower, according to the custom of the manor. As to this free-bench, several manors have several customs; and in the manors of East and West Enbourne, in the county of Berks, and other parts of England, there is a custom, that when a copyhold tenant dies,

the widow shall have her free-bench in all the deceased husband's lands, whilst she lives single and chaste; but if she commits incontinency, she shall forfeit her estate: nevertheless, upon her coming in to the court of the manor, riding on a black ram, and having his tail in her hand, and at the same time repeating a form of words prescribed, the steward is obliged, by the custom of the manor, to re-admit her to her free-bench.

KING's-BENCH. See **KING's-BENCH**.

BENCHERS, in our laws of court, the senior members of the society, who are invested with the government thereof.

BENCOOLEN, a town and fort on the south-west coast of Sumatra, belonging to the East-India company, from whence great quantities of pepper are imported. It is situated in 101° east longitude, and 4° south latitude.

BEND, in heraldry, one of the nine honourable ordinaries, containing a third part of the field when charged, and a fifth when plain. It is sometimes, like other ordinaries, indented, ingrailed, &c. and is either dexter or sinister.

BEND dexter is formed by two lines drawn from the upper part of the shield on the right, to the lower part of the left, diagonally. It is supposed to represent a shoulder belt, or a scarf, when worn over the shoulder. See plate XXVII. fig. 3.

BEND sinister is that which comes from the left side of the shield to the right: this the French heralds call a barre. See plate XXVII. fig. 3.

In **BEND** is when any things, borne in arms, are placed obliquely from the upper corner to the opposite lower, as the bend lies.

Parti per **BEND**, *Point in* **BEND**, &c. See the articles **PARTI** and **POINT**.

BENDER, a town of Bessarabia, in European Turkey, situated on the river Neistër, in 29° east longitude, and $46^{\circ} 40'$ north latitude.

BENDING, in a general sense, the reducing a straight body into a curve, or giving it a crooked form.

The bending of timber, boards, &c. is effected by means of heat, whereby their fibres are so relaxed that you may bend them into any figure.

BENDING, in the sea-language, the tying two ropes or cables together: thus they say, bend the cable, that is, make it fast to the ring of the anchor; bend the sail, make it fast to the yard.

BENDITTO, a town of the Mantuan, in Italy, situated near the south shore of the river Po, about twelve miles south-east of

Mantua, in 11° 20' east longitude, and 45° north latitude.

BENDS, in a ship, the same with what is called wails, or wales; the outmost timbers of a ship's side, on which men set their feet in climbing up. They are reckoned from the water, and are called the first, second, or third bend. They are the chief strength of a ship's sides, and have the beams, knees, and foot-hooks bolted to them.

BENDY, in heraldry, is the field divided into four, six, or more parts, diagonally, and varying in metal and colour.

The general custom of England is to make an even number, but in other countries they regard it not, whether even or odd. See plate XXVII. fig. 4.

Counter BENDY is used by the French, to express what we ordinarily call bendy of six per bend sinister, counterchanged.

Barry BENDY } See the articles { **BARRY**.
Paly BENDY } { **PALY**.

BENEAPED, among sailors. A ship is said to be beneaped when the water does not flow high enough to bring her off the ground, out of the dock, or over the bar.

BENEDICTINES, in church-history, an order of monks, who profess to follow the rules of St. Benedict.

The benedictines, being those only that are properly called monks, wear a loose black gown, with large wide sleeves, and a capuche, or cowl, on their heads, ending in a point behind. In the canon law, they are styled black friars, from the colour of their habit.

The rules of St. Benedict, as observed by the english monks before the dissolution of the monasteries, were as follows: they were obliged to perform their devotions seven times in twenty-four hours, the whole circle of which devotions had a respect to the passion and death of Christ: they were obliged always to go two and two together; every day in lent they were obliged to fast till six in the evening, and abated of their usual time of sleeping and eating; but they were not allowed to practise any voluntary austerity without leave of their superior: they never conversed in their refectory at meals, but were obliged to attend to the reading of the scriptures; they all slept in the same dormitory, but not two in a bed; they lay in their cloaths: for small faults they were shut out from meals; for greater, they were debarred religious commerce, and excluded from the chapel; and as to incorrigible offenders, they were excluded

from the monasteries. Every monk had two coats, two cowls, a table-book, a knife, a needle, and a handkerchief; and the furniture of their bed was a mat, a blanket, a rug, and a pillow.

BENEDICTION, or **BLESSING**. The Hebrews, under this name, understand the present usually sent from one friend to another, as also the blessing conferred by the patriarchs, on their death-beds, upon their children.

The privilege of benediction was one of those early instances of honour and respect paid to bishops in the primitive church. The custom of bowing the head to them, and receiving their blessings was become universal. In the western churches there was antiently a kind of benediction which followed the Lord's prayer; and after the communion, the people were dismissed with a benediction.

BENEFICE, *beneficium*, in an ecclesiastical sense, a church endowed with a revenue, for the performance of divine service; or the revenue itself assigned to an ecclesiastical person, by way of stipend, for the service he is to do that church.

All church-preferments, except bishoprics, are called benefices; and all benefices are, by the canonists, sometimes styled dignities: but we now ordinarily distinguish between benefice and dignity, applying dignity to bishoprics, deanries, archdeaconries, and prebendaries; and benefice to parsonages, vicarages, and donatives. Benefices are divided by the canonists into simple and sacerdotal; in the first there is no obligation but to read prayers, sing, &c. such are canonries, chaplainships, chantries, &c. the second are charged with the cure of souls, or the direction and guidance of consciences: such are vicarages, rectories, &c.

The romanists again distinguish benefices into regular and secular.

Regular or titular benefices are those held by a religious, or a regular, who has made profession of some religious order: such are abbies, priories, conventuals, &c. or rather, a regular benefice is that which cannot be conferred on any but a religious, either by its foundation, by the institution of some superior, or by prescription: for prescription, forty years possession by a religious makes the benefice regular.

Secular benefices are only such as are to be given to secular priests, i.e. to such as live in the world, and are not engaged in any monastic order. All benefices are reputed secular, till the contrary is made

to appear. They are called secular benefices, because held by seculars; of which kind are almost all cures.

Some benefices, regular in themselves, have been secularized by the pope's bull. The canonists distinguish three manners of vacating a benefice, *viz. de jure, de facto*, and by the sentence of a judge.

A benefice is vacated *de jure*, when the person enjoying it is guilty of certain crimes expressed in those laws, as heresy, simony, &c.

A benefice is vacated *de facto*, as well as *de jure*, by the natural death, or the resignation of the incumbent; which resignation may be either express, or tacit, as when he engages in a state, &c. inconsistent with it, as, among the romaniſts, by marrying, entering into a religious order, or the like.

A benefice becomes vacant by the sentence of a judge, by way of punishment for certain crimes, as concubinage, perjury, &c. It is observed, that antiently there were five cases by which benefices were acquired; by the nominative, as in royal nomination; by the genitive, as when the children of great men, &c. are provided of benefices by their birth; by the dative, as when speaking of a benefice, it is said *date*, and *dabitur vobis*; by the accusative, as where, by virtue of an accusation, either true or false, an incumbent is dispossessed, and another admitted; by the ablative, as when benefices are taken away by force from the poor and helpless: but the vocative, which is the most just and legitimate, is out of use.

A BENEFICE in *commendam* is that, the direction and management of which, upon a vacancy, is given, or recommended, to an ecclesiastic, for a certain time, till he may be conveniently provided for. See the articles REGULAR and SECULAR.

Suspensio a BENEFICIO. See SUSPENSION.

Primo BENEFICIO ecclesiastico habendo. See the article PRIMO.

BENEFIT of clergy. See the article BENEFIT of CLERGY.

BENEVENTE, a town of Leon, in Spain, situated on the river Ebro, about forty miles south of the city of Leon, in 6° west longitude, and 42° 10' north latitude.

BENEVENTO, the capital of the farther Principate, in the kingdom of Naples, about thirty-four miles north-east of the city of Naples; situated in 15° 30' east longitude, and 41° 15' north latitude.

BENEVOLENCE is used in the statutes of this realm for a voluntary gratuity given by the subjects to the king.

BENFIELD, a town of Alsace, in Germany, about fifteen miles south of Strasbourg, situated in 7° 30' east longitude, and 48° 25' north latitude.

BENGAL, the most easterly province of the mogul's empire, lying at the bottom of a large bay, which takes its name from this province.

It is one of the most fertile provinces in India, being yearly overflowed by the Ganges, as Egypt is by the Nile.

BENGUELA, a kingdom upon the western coast of Africa, between Angola and Jaga: it is also the name of the capital of that kingdom.

BENJAMIN, the same with benzoin. See the article BENZOIN.

BENIN, the capital of a country of the same name, on the coast of Guinea, situated in 5° east longitude, and 7° 30' north latitude.

BENSHEIM, a town of Germany, situated on the east side of the river Rhine, about ten miles east of Worms, in 8° 30' east longitude, and 49° 40' north latitude.

BENTHEIM, the capital of a county of the same name, in the circle of Westphalia; situated in 7° 15' east long. and 52° 25' north latitude.

BENTIVOGLIO, a town in the territory of Bologna, in Italy, about ten miles north of that city, situated in 12° east long. and 44° 30' north latitude.

BENZOIN, a dry and solid resin, brought to us in masses of various sizes, from the East Indies, particularly from the kingdom of Siam, and the islands of Java and Sumatra. It is to be chosen fresh, and of a quick pungent smell, easily broken, and full of the white almond-like granules. The black benzoin is vastly inferior to this, and ought wholly to be rejected. It is a powerful expectorant, and is given with success in infarctions of the lungs, and inveterate coughs. It is sometimes used externally in plasters applied to the head for head-achs, and to the stomach, to promote digestion.

The preparations of benzoin are, 1. A tincture, made in spirit of wine, and commended in taking freckles from the skin.

2. Flowers of benzoin, which are sudorific, and good in asthma and tubercles of the lungs. And, 3. Oil and spirit of benzoin, the latter of which is diuretic, but not very pleasant, by reason of its empyreuma; and the former is accounted a good vulnerary, both in external and internal application.

BERBERIS, the BARBERRY-BUSH, a genus

mus of plants of the *hexandria-monogynia* class, the flower of which consists of six roundish, hollow, erecto-patent petals, and is scarce larger than the cup: the fruit is a cylindric, obtuse, umbilicated berry, with one cell, containing two oblong, cylindric, and obtuse seeds.

The fruit is very cooling and astringent, and good to quench thirst.

The conserve of its fruit is of use in fluxes and the jaundice.

BERCHEROIT, or **BERKCOITS**, a weight used at Archangel, and in all the russian dominions, to weigh such merchandizes as are very heavy and bulky: It weighs about three hundred and sixty-four pounds english avoirdupois weight.

BERENGARIANS, a religious sect of the XIth century, which adhered to the opinion of Berengarius, who, even in those days, strenuously asserted, that the bread and wine in the Lord's supper is not really and essentially, but only figuratively, changed into the body and blood of Christ.

His followers were divided in opinion as to the eucharist: they all agreed, that the elements are not essentially changed; though some allowed them to be changed in effect: others admitted a change in part; and others an entire change, with this restriction, that to those who communicated unworthily, the elements were changed back again.

BERE-REGIS, a market town in Dorsetshire, about ten miles north-east of Dorchester, in $2^{\circ} 20'$ west longitude, and $50^{\circ} 40'$ north latitude.

BERG, a duchy of Westphalia, in Germany, lying on the eastern shore of the river Rhine; which separates it from Cologne.

BERGAMO, a town in the territories of Venice, in Italy, about twenty-five miles north-east of Milan, in 10° east longit. and $45^{\circ} 40'$ north latitude.

BERGAMOT, the name of a fragrant essence extracted from a fruit which is produced by ingrafting a branch of a lemon-tree upon the stock of a bergamot-pear. It is also the denomination of a coarse tapestry, manufactured with flocks of silk, wool, cotton, hemp, ox, cow, or goat's hair, and supposed to be invented by the people of Bergamo.

BERGEN, the capital of a province of the same name, in Norway: it is a considerable port-town on the German ocean, in 6° east lon. and 60° north lat.

BERGEN is also the name of the capital of

the isle of Rugen, on the coast of Pomerania, in 14° east longit. and $54^{\circ} 15'$ north latitude.

BERGEN-OP-ZOOM, a fortified town of dutch Brabant, about twenty miles north of Antwerp, in $4^{\circ} 5'$ east longitude, and $51^{\circ} 30'$ north latitude.

BERGERACK, a city of Guienne, in France, situated on the river Dordonne, about forty miles east of Bourdeaux, in $20'$ east lon. and $44^{\circ} 55'$ north lat.

BERG-gruen, in natural history, the name of an earth used in painting, and properly called green ockre, though not known among the colourmen under that name. It is found in many parts of Germany, Italy, and England, commonly in the neighbourhood of copper-mines, from particles of which metal it receives its colour. In many parts of Germany, they have a purer kind of this, distinguished by no peculiar name, but separated by art from the waters draining from the copper-mines, and differing no otherwise from this native substance, than as the washed ockres of Oxfordshire, &c. do from these sent us in their natural condition. The characters by which the native kind is known from other green earths, are these: it is a dense, compact substance, considerably heavy, and of a pale, but not disagreeable green; of a rough and uneven, but not dusty surface, and somewhat unctuous to the touch. It adheres firmly to the tongue; does not break easily between the fingers; nor at all stain the hands. It is of a brackish disagreeable taste, and does not ferment with acids.

BERGHMOT, an assembly, or court, held upon a hill, in Derbyshire, for deciding controversies among the miners.

BERGZABERN, a town of lower Alsace, about five miles south of Landau, in 8° east lon. and $49^{\circ} 5'$ north lat.

It is subject to France.

BERIBERI, a kind of palsy, common in the East Indies. The word, in the language of the country, signifies a sheep, and was given by the natives to this distemper, because the patients, on throwing out their knees, and lifting up their legs, seem to imitate sheep in their walk.

BERKSHIRE, a county of England, lying on the south side of the river Thames, opposite to Oxfordshire and Buckinghamshire.

It gives the title of earl to a branch of the Howard family.

BERLIN, the capital of the king of Prussia's

sia's dominions in Germany, situated on the river Spree, in the marquissate of Brandenburg: east longitude 14° , and north latitude $52^{\circ} 30'$.

BERLIN is also the name of a kind of chariot, so called from the city of Berlin.

BERME, in fortification, a space of ground left at the foot of the rampart, on the side next the country, designed to receive the ruins of the rampart, and prevent their filling up the fosse. It is sometimes palisadoed, for the more security; and in Holland it is generally planted with a quick-set hedge. It is also called *liziere*, *relais*, *foreland*, *retraite*, *pas de souris*, &c.

BERMUDA-ISLANDS, a cluster of very small islands, in the Atlantic ocean, lying almost in the shape of a shepherd's hook, in 65° west longitude, and $32^{\circ} 30'$ north latitude.

BERN, a town of Bohemia, about fifteen miles west of Prague, in 14° east longit. and 50° north latitude.

BERN is also the name of a city and canton in Switzerland; the former being situated in $7^{\circ} 20'$ east lon. and 47° north lat.

The canton of Bern is by far the most extensive and powerful of all Switzerland: their government is aristocratical, and their religion protestant, according to the presbyterian form.

BERNACLE, or **CLAKIS**, in ornithology, the *anas* with the head and neck black. See the article **ANAS**.

This is a very singular bird: it is considerably smaller than the common goose, but larger than the duck; the head is large and rounded; the eyes are large; the beak is black, and much smaller than in the common goose, though broader in proportion to its length; the under part of the body is white, with somewhat of an admixture of grey; the back is variegated with black and grey, and the covering feathers of the tail are part white, and part black; the tail is black, and the covering feathers of the wings are very elegantly variegated with black, grey, and white.

This is the bird which Gerard, and some other authors, have declared to be produced from a peculiar species of shell-fish, called the *bernacle-shell*, found on decayed wood that lies about the sea-shores. The love of wonderful observations raised this first account of the bird's being produced from a shell-fish, that usually adhered to old wood, into the story of that shell's growing upon a

tree in manner of its fruit. The whole matter that gave origin to this story is, that the shell-fish, supposed to have this wonderful production, usually adhere to old wood, and that they have a kind of fibrils hanging out of them, which, in some degree, resemble feathers of some bird; from which arose a story, that they contained real birds.

BERNACLE, in the history of shells. See the article **CONCHA ANATIFERA**.

BERNARDINES, an order of monks, founded by Robert, abbot of Moleme, and reformed by St. Bernard. They wear a white robe with a black scapulary, and when they officiate they are clothed with a large gown which is all white, and hath great sleeves, with a hood of the same colour. They differ but very little from the cistercians. See the article **CISTERCIANS**.

BERNAW, the name of three towns in Germany, one in the electorate of Brandenburg, another in the bishopric of Ratibon, and the third in the upper Palatinate.

BERNBURG, a town of Anhalt, in the circle of upper Saxony, situated in $12^{\circ} 20'$ east longitude, and $51^{\circ} 50'$ north latitude.

BERRY, *bacca*, a round fruit, for the most part soft, and covered with a thin skin, containing seeds in a pulpy substance; but if it be harder, or covered with a thicker skin, it is called *pomum*, apple.

Berries grow scattering upon trees and shrubs, and in that are distinguished from *acini*, which are berries hanging in clusters. See the article **ACINUS**.

They are of various sizes, forms, properties, and uses, according to the plants on which they grow. Some are used in dyeing, as french berries.

The most remarkable in the *materia medica* are *baccæ alkekengi*, or winter-cherry berries, *agnus castus* berries, bay berries, juniper berries, and myrtle berries.

Berries for the dyers use, imported from the british plantations, pay for every 20s. value, upon oath, 2s. 10⁰⁰/₁₀₀ d. whereof 2s. 4⁰⁰/₁₀₀ d. is drawn back on exporting them. French berries, for the same purposes, pay 11s. 7⁰⁰/₁₀₀ d. for every 20s. value; whereof, upon exporting them, 6s. 1⁰⁰/₁₀₀ d. is drawn back.

BERRY, in geography, a territory of the Orle-

Orléans, having Tourain on the west, and the Nivernois on the east.

BERRY-POINT, a cape at the entrance of Torbay, in Devonshire.

BERSELLO, or **BRESELLO**, a town of the Modenese, in Italy, situated on the river Po, about fourteen miles north east of Parma: east longitude 11° , and north latitude $44^{\circ} 40'$.

BERTRAND, or **St. BERTRAND**, a city of Gascony, in France, situated on the river Garonne, about forty-five miles south of Toulouse, in 30° east longitude, and $43^{\circ} 15'$ north latitude.

BERVY, a sea-port town and borough of Scotland, situated on the German ocean, about twenty-two miles south-west of Aberdeen, in $2^{\circ} 5'$ west longit. and $56^{\circ} 40'$ north latitude.

BERWICK, a borough town on the borders of England and Scotland, situated on the north side of the river Tweed, in $1^{\circ} 40'$ west lon. and $55^{\circ} 40'$ north lat. It sends two members to parliament.

North-BERWICK, a town of Scotland, situated at the entrance of the frith of Forth, about seventeen miles east of Edinburgh, in $2^{\circ} 27'$ west longitude, and $56^{\circ} 5'$ north latitude.

BERYL, *Βερύλλος*, in natural history, called by our lapidaries *aqua marina*, is a pellucid gem of a bluish green colour, found in the East Indies, and about the gold mines of Peru: we have also some from Silesia, but what are brought from thence are oftener coloured crystals, than real beryls; and when they are genuine, they are greatly inferior both in hardness and lustre to the oriental and peruvian kinds.

The beryl, like most other gems, is met with both in the pebble and columnar form, but in the latter most frequently. In the pebble form it usually appears of a roundish but flatted figure, and commonly full of small flat faces, irregularly disposed. In the columnar or crystalline form it always consists of hexangular columns, terminated by hexangular pyramids. It never receives any admixture of colour into it, nor loses the blue and green, but has its genuine tinge in the degrees from a very deep and dusky to the palest imaginable of the hue of sea-water.

The beryl, in its perfect state, approaches to the hardness of the garnet, but it is often softer; and its size is from that of a small rare to that of a pea, a horse bean, or even a walnut. As to its virtues,

some fanciful people have advised it to be worn to prevent sea-sickness. It is said to be an astrigent; and, indeed, its colour is owing to a mixture of cupreous and ferruginous particles; but they are in too small quantity to have any effect as medicines.

BERYL-CRYSTAL, in natural history, a species of what Dr. Hill calls *ellipomacrossyla*, or imperfect crystals, is of an extreme pure, clear, and equal texture, and scarce ever subject to the slightest films or blemishes. It is ever constant to the peculiarity of its figure, which is that of a long and slender column, remarkably tapering towards the top, and very irregularly hexangular. It is of a very fine transparency, and naturally of a pale brown, and carries so evident marks of distinction from all other brown crystals, that our lapidaries call it, by way of eminence, the beryl-crystal, or simply the beryl.

BES, or **BESSIS**, in roman antiquity, two thirds of the as. See the article *As*.

BES also denotes two thirds of the jugerum. See the article *JUGERUM*.

BESAILE, in law, a writ that lies where the great-grand-father was seized in fee of any lands, &c. at the time of his death; and after his decease, a stranger enters thereon, the same day, and keeps out the heir.

BESANCON, the capital of Franche Comte, in France, situated in 6° east longitude, and $47^{\circ} 20'$ north latitude.

BESANT, or **BEZANT**, a coin of pure gold, of an uncertain value, struck at Byzantium, in the time of the christian emperors; from hence the gold offered by the king at the altar, is called besant, or bisant.

BESANTS, in heraldry, round pieces of gold, without any stamp, frequently borne in coats of arms. See plate XXVII. fig. 8.

BESIERS, a city of lower Languedoc, in France, about two miles north of the Mediterranean, and fifteen north-east of Narbonne, in 3° east long. and $43^{\circ} 25'$ north latitude.

BESLERIA, in botany, a genus of the *didynamia-angiospermia* class of plants. Its flower consists of a single ringent petal. Its fruit is a berry of a globose form, containing only one cell, in which are several seeds, very small, and of a roundish figure.

BESORCH, a coin of tin, or some alloyed metal, current at Ormus, at the rate of $7\frac{7}{9}$ parts of a farthing sterling.

BESSA-



It is moveable on a center, and so may be set to any angle.

The make and use of this instrument is pretty much the same as those of the common square and mitre, except that those are fixed, the first at an angle of ninety degrees, and the second at forty-five; whereas the bevel being moveable, it may in some measure supply the place of both, which it is chiefly intended for, serving to set off or transfer angles, either greater or less than ninety or forty-five degrees.

BEVEL-ANGLE, any other angle besides those of ninety or forty-five degrees. See the article **ANGLE**.

BEVELAND, the name of two islands, in the province of Zealand, in the united Netherlands.

They are called North and South Beveland; and lye between the eastern and western branches of the Scheld.

BEVERLY, a borough-town of Yorkshire, about seven miles north of Hull, in 12° west longitude, and $53^{\circ} 50'$ north latitude.

It sends two members to parliament.

BEVILE, in heraldry, a thing broken or opening like a carpenter's rule: thus we say, he beareth argent, a chief bevile, vert, by the name of *beverlis*. See plate XXVII. fig. 7.

BEWDLEY, a borough-town of Worcestershire, situated on the river Severn, about twelve miles north of Worcester, in $2^{\circ} 20'$ west longitude, and $52^{\circ} 25'$ north latitude.

It sends only one member to parliament.

BEWITS, in falconry, pieces of leather to which a hawk's bells are fastened, and buttoned to his legs.

BEY, among the Turks, signifies a governor of a country or town. The Turks write it *begh*, or *bek*, but pronounce it *bey*.

This word is particularly applied to a lord of a banner, whom, in the same language, they call *fangiacheg* or *bey*. Every province in Turkey is divided into seven *fangiachs*, or banners, each of which qualifies a bey, and these are all commanded by the governor of the province, whom they also call *begler-beg*, that is, lord of all the *beghs* or *beys* of the province; these *beys* are much the same as bannerets were formerly in England.

BEY of Tunis, the same with the dey of Algiers, is the prince or king of that kingdom.

BEZANT, or **BESANT**. See **BISANT**.

BEZOAR, in a general sense, an antidote, or medicine intended to prevent the fatal effects of poison.

Oriental BEZOAR, a moderately hard and heavy stone, very variable and uncertain in size, shape, and colour. It is generally of a round form, and its size is between that of a horse-bean, and that of a small walnut, though there are some larger, and some smaller than peas. The ordinary colour is a dusky olive or greenish brown.

It is always smooth and glossy on the surface, and, when broken, is found to consist of a great number of coats or crusts of stony matter, laid one over another, and often formed upon a piece of stick, or seed of a fruit, or some such thing, for a nucleus, or basis.

This is a drug of very great price, and of very great fame; but it is not of the number of those things that have been proved to deserve the repute they stand in. It is brought to us from Persia, and many parts of the East Indies; it is to be chosen entire, not in scraps and fragments; of a greenish or olive colour, with some mixture of grey in it, and such as, when rubbed on paper, before whitened with cerus, gives a yellowish colour.

The oriental bezoar is, like the pearl, a distemper in the animal that produces it, and is a concretion of stony matter in the stomach of a quadruped of the goat-class, called *capre bezoarticus* and *hircus bezoarticus* by Aldrovand, Johnston, and others; but Ray calls it *gazella indica cornubus rellis*, &c.

In the stomach of this animal are found from one to five or six of these stones.

Great things are said of the medicinal virtues of this stone, as a cordial, sudorific, alexipharmic: but, at present, physicians never prescribe it singly.

Occidental BEZOAR. This stone is brought from Peru and Mexico chiefly: the creature in whose stomach it is found, is described by Hernandez under the name of *mozarna seu cervus*, and by Johnston, under that of *capreolus marinus*.

This bezoar is said to possess all the virtues of the oriental, but in a more remote degree, and therefore it requires to be given in a larger dose.

Monkey-BEZOAR. This is a very rare and valuable stone found in a species of monkey common in the East Indies, and in America, and described by Marcgrave under the name of *guariba*; great numbers

bers of which are killed in hopes of bezoars, but it is very rare to find a stone in them.

The great virtues ascribed to this stone, have set it at so high a price, that possessors of oriental bezoars, resembling it in colour, have often pretended to call them by this name.

Porcupine BEZOAR, or the *pedro del porco*, the hog-stone, so called from an opinion that it was taken from an animal of the hog-kind, tho' it is certain that they are always taken from the porcupine. This stone is of a yellow or brownish colour: the Indians set a great value on it as a remedy against epidemical diseases, common in that part of the world, arising from a disordered bile. They esteem it as an universal remedy, and give it against poisons, and malignant fevers; and the Europeans look upon it as a good remedy in the small-pox.

German BEZOARS, a stone found in the stomach of an animal of the goat-kind, called rupi-capra, or chamois.

The virtues of this bezoar are said to equal, if not to excel, the oriental bezoar. It is reported to be a great remedy in malignant fevers, as also in the plague; and has the reputation of expelling poison. This bezoar is in use in the german shops, but in ours is scarce known.

Mineral BEZOAR, *bezoardicum minerale*, a preparation of butter of antimony, corrected with spirit of nitre. Then the matter is powdered and calcined in a crucible; after which it is edulcorated by washing, and spirit of wine burnt on it three or four times.

It is said to eradicate leprosy in the most obstinate cases of that kind, if rightly managed. It is reported to be a very great sudorific, and is given in malignant fevers, in the small-pox and measles, and against the bites of venomous animals.

BEZOARDICUM *martiare*, or the bezoar of Mars, a preparation of the crocus of Mars, dissolved with butter of antimony. This medicine stops hepatic and other fluxes, and strengthens the viscera.

BEZOARDICUM *lunare*, or the bezoar of silver, is made by mixing rectified butter of antimony with fine silver, dissolved in spirit of nitre, upon which a powder falls to the bottom, which is the bezoar. This medicine is reckoned a specific in epilepsies, convulsions, megrims, and

apoplexies. It is anodyne, sudorific, and of effect in curing the erysipelas.

BEZOARDICUM *joviale*, or bezoar of Jupiter, a greyish powder, prepared from regulus of antimony and tin, mixed with mercury sublimate, and distilled in a retort.

This is a strong diaphoretic, and of singular efficacy in disorders of the womb, as also in fevers, the plague and scurvy.

BEZOARDIC, an appellation given to whatever partakes of the nature of bezoar; also to compound medicines whereof bezoar makes an ingredient. See the article BEZOAR.

BIAS, or BIAS, in a general sense, the inclination, or bent of a person's mind, to one thing more than another.

It also signifies the lead or weight put into a bowl, that draws or turns the course of it any way to which the bias looks.

BIBITORY *muscle*, the same with the adductor oculi. See ADDUCTOR.

BIBLE, *βιβλιον*, the book, a name given by christians, by way of eminence, to a collection of the sacred writings.

This collection of the sacred writings, containing those of the Old and New Testament, is justly looked upon as the foundation of the jewish as well as the christian religion. The Jews, it is true, acknowledge only the scriptures of the Old Testament, the correcting and publishing of which, is unanimously ascribed both by the Jews and the christians to Ezra. Some of the antient fathers, on no other foundation than that fabulous and apocryphal book, the second book of Esdras, pretend that the scriptures were intirely lost in the babylonish captivity, and that Ezra had restored them again by divine revelation. What is certain is, that in the reign of J siah, there were no other books of the law extant, besides that found in the temple by Hilkiah; from which original, that pious king ordered copies to be immediately written out, and search made for all the parts of the scriptures; by which means copies of the whole became pretty numerous among the people, who carried them with them into captivity. After the return of the Jews from the babylonish captivity, Ezra got together as many copies as he could of the sacred writings, and out of them all prepared a correct edition, disposing the several books in their natural order, and settling

the canon of the scripture for his time ; having published them according to the opinion of most learned men, in the chaldee character, as the Jews, upon their return from the captivity, brought with them the chaldaic language, which from that time became their mother tongue, and probably gave birth to the chaldee translation of their scriptures.

Chaldee BIBLE is only the glosses, or expositions made by the Jews when they spoke the chaldee tongue : whence it is called *targumim*, or paraphrases, as not being a strict version of the scriptures.

Hebrew BIBLE. There is, in the church of St. Dominic, in Bononia, a copy of the hebrew scriptures, which they pretend to be the original copy, written by Ezra himself. It is written in a fair character, upon a sort of leather, and made up into a roll, after the antient manner : but its having the vowel points annexed, and the writing being fresh and fair, without any decay, are circumstances which prove the novelty of the copy.

Greek BIBLE. It is a dispute among authors, whether there was a greek version of the Old Testament, more antient than that of the seventy-two Jews employed by Ptolemy Philadelphus to translate that book : before our Saviour's time, there was no other version of the Old Testament besides that which went under the name of the LXX. See the article SEPTUAGINT.

But after the establishment of christianity, some authors undertook new translations of the bible, under pretence of making them more conformable to the hebrew text. There have been about six of these versions, some whereof are charged with having corrupted several passages of the prophets relating to Jesus Christ ; others have been thought too free in their versions, and others have been found fault with, for having confined themselves too servilely to the letter.

Latin BIBLE. It is beyond dispute, that the latin churches had, even in the first ages, a translation of the bible in their language ; which being the vulgar language, and consequently understood by every body, occasioned a vast number of latin versions. Among these there was one which was generally received, and called by St. Jerom, the vulgar or common translation. St. Austin gives this version the name of the italic, and prefers it to all the rest. See VULGATE.

There were several other translations of

the bible into latin, the most remarkable of which are the versions of St. Jerom, Santes Pagninus, cardinal Cajetan, and Iliodore Clarius, all from the hebrew text. Besides these translations by catholic authors, there are some made by protestant translators of the hebrew ; the most eminent of their versions are those of Sebastian Munster, Leo Juda, Sebastian Castalio, Theodore Beza, Le Clerc, &c.

Syriac BIBLE. The Syrians have in their language a version of the Old Testament, which they pretend to be of great antiquity, most part of which they say was made in Solomon's time, and the rest in the time of Abgarus king of Edessa.

Arabic BIBLE. The arabic versions of the bible are of two sorts, the one done by christians, the other by jews. There are also several arabic versions of particular books of scripture, as a translation of the pentateuch from the syriac, and another of the same from the septuagint, and two other versions of the pentateuch, the manuscripts of which are in the bodleian library.

The gospel being preached in all nations, the bible, which is the foundation of the christian religion, was translated into the respective languages of each nation ; as the egyptian or coptic, the indian, persian, armenian, ethiopic, scythian, sarmatian, sclavonian, polish, bohemian, german, english, &c.

The books of the bible are divided by the Jews into three classes, *viz.* the law, the prophets, and the hagiographers ; a division which they are supposed to borrow from Ezra himself.

Each book is subdivided into sections, or *parafches* ; which some will have to have been as old as Moses, though others, with more probability, ascribe it to the same Ezra. These were subdivided into verses, *pesuchim*, marked in the hebrew bible by two great points, called *soph pasuch*, at the end of each. For the division of the bible into chapters, as we now have it, it is of much later date.

Divers of the antient bible-books appear to be irrecoverably lost, whether it be that the copies of them perished, or that Esdras threw them out of his canon. Hence it is, that, in the books still extant, we find divers citations of, and references to, others, which are now no more ; as the book of Jasher, the book of the wars of the Lord, annals of the kings of Judah and Israel, part of Solomon's three thousand proverbs, and his thousand and five songs, besides his books on plants, animals,

mals, fishes, insects, &c. To which may be added, a book of Jeremiah, wherein he enjoined the captives who went to Babylon to take the sacred fire and conceal it; also the precepts which that prophet gave the Jews to preserve themselves from idolatry, and his lamentations on the death of king Josiah.

The jewish canon of scripture then was settled by Ezra; yet not so but that several variations have been since made in it: Malachi, for instance, could not be put in the bible by him, since that prophet is allowed to have lived after Ezra; nor could Nehemiah be there, since mention is made in that book of Jaddua as high-priest, and of Darius Codomannus as king of Persia, who were, at least, an hundred years later than Ezra. It may be added, that, in the first book of Chronicles, the genealogy of the sons of Zerubbabel is carried down for so many generations, as must necessarily bring it to the time of Alexander; and consequently this book could not be in the canon in Ezra's days. It is probable the two books of Chronicles, Ezra, Nehemiah, Esther, and Malachi, were adopted into the bible in the time of Simon the Just, the last of the men of the great synagogue.

BIBLIOTHECA, in its original and proper sense, denotes a library, or place for depositing books.

BIBLIOTHECA, in matters of literature, denotes a treatise giving an account of all the writers on a certain subject; thus, we have bibliothecas of theology, law, philosophy, &c.

There are likewise universal bibliothecas, which treat indifferently of all kinds of books; also select bibliothecas, which give an account of none but authors of reputation.

Many of the bibliothecas agree, in most respects, with what are otherwise called memoirs or journals of literature, except that these last are confined to new books; but there are other bibliothecas, that differ in nothing from catalogues of the writers on certain subjects.

BIBLISTS, *bibliſtæ*, so the roman catholics call those christians, that make scripture the sole rule of faith; in which sense, all protestants either are, or ought to be, biblists.

BIBRACH, an imperial city of Swabia, in Germany, about twenty miles south-west of Ulm: east longitude $9^{\circ} 30'$, and north latitude $48^{\circ} 12'$.

BICE, or **BISE**, among painters, a blue

colour prepared from the lapis armenus. Bice bears the best body of all bright blues used in common work, as house-painting, &c. but it is the palest in colour. It works indifferently well, but inclines a little to sandy, and therefore requires good grinding. Next to ultramarine, which is too dear to be used in common work, it lies best near the eye of all other blues.

BICEPS, in anatomy, the name of several muscles; as the

BICEPS HUMERI, or **CUBITI**. This being a muscle of the arm, has two heads; the first of which arises, with a long, round tendon, from the upper edge of the acromion scapulæ, running under the ligament of the articulation, in a channel, on the head of the shoulder-bone, wherein it is inclosed by a proper ligament; the other arises with a somewhat broad, flat, and long tendon, at the extremity of the process coracoides scapulæ; in its descent, it strictly adheres to the coracobrachialis, and parting from it, both these heads compose a large fleshy belly, which becoming tendinous near the cubit, is inserted by a strong round tendon to the tubercle, at the upper head of the radius. When this muscle acts, the cubit is bended.

BICEPS TIBIÆ, or **FEMORIS**, a muscle of the leg with two heads; the superior arising with a round tendon from the protuberance of the ischium; and the other, being the shortest, from the lower part of the os femoris: both which join together, and are inserted by one tendon into the superior and external part of the perone.

Besides the office commonly assigned to this muscle, in bending the tibia, together with the sartorius and membranous, it is likewise employed in turning the leg, together with the foot and toes, outwards when we sit with the knees bended.

BICHET, a quantity, or measure of corn, which differs according to the places where it is used. The bichet is not a wooden measure, as the minot at Paris, or the bushel at London, but is composed of several certain measures. It is used in many parts of France, &c.

BICHET, a certain quantity of land, namely, as much as may be sown by a bichet of corn.

BICLINIUM, in roman antiquity, a chamber with two beds in it; or when two beds only were round a table. See **BED**.

BICORNIS,

BICORNIS, in anatomy, a name for the os hyoides. See the article **HYOIDES**.

BICORNIS MUSCULUS, a name for the extensor carpi radialis.

BIDDING of the bans, the same with what is otherwise called asking. See the article **MARRIAGE**.

BIDDING, in a commercial sense, the offering a sum of money, or a certain price, for any ware or merchandize; and when any thing is sold by auction, a person who has a mind to have it, must offer something more for it than the person who bade last.

BIDDER, he that bids money for any merchandize that is selling by auction: the best, or last bidder, is he who offers most money for it. See the articles **SALE**, and **SALE by inch of candle**.

BIDENS, in botany, a genus of the *syn-genesia polygamia equalis* class of plants. The compound flower is uniform and tubulose, and the proper one infundibuliform. The seed is single, obtuse, and crowned with two or more erect and sharp awns. See plate XXVIII. fig. 1.

This plant is common in wet places.

BIDENTAL, in roman antiquity, a place blasted with lightening, which was immediately consecrated by an haruspex, with the sacrifice of a bidens. This place was afterwards accounted sacred, and it was unlawful to enter it, or to tread upon it; for which reason it was commonly surrounded with a ditch, wall, hedge, ropes, &c. See the next article.

BIDENTALES, in roman antiquity, priests instituted to perform certain ceremonies and expiations when thunder fell on any place. Their principal office was the sacrificing a sheep of two years old, which in latin is called *bidens*; from whence the place struck with thunder got the name of bidental.

The bidentales constituted a college, or decury.

BIDON, a liquid measure, containing about five pints of Paris, that is, about five quarts english wine-measure. It is seldom used but among ships crews.

BIEL, a town of the canton of Bern, in Switzerland, situated at the north end of a lake to which it gives name, about fifteen miles north-west of the city of Bern: east long. 7°, and north lat. 47° 15'.

BIELSKI, a town of Polachia, in Poland, about sixty two miles south of Grodno: east long. 24°, and north lat. 53°.

BIELSKI, or **BIHELA**, is also a town of

Smolensko, in Russia: east long. 35°, and north lat. 56° 40'.

BIER, a wooden machine for carrying the bodies of the dead to be buried. See the article **BURIAL**.

BIGA, in antiquity, a chariot drawn by two horses abreast. Chariot races, with two horses, were introduced into the olympic games in the 93d olympiad: but the invention was much more antient, as we find that the heroes in the Iliad fought from chariots of that kind.

BIGAMY, the possession of two wives at the same time. This is the interpretation of the word, in a law passed in 1 Jac. I. which makes bigamy felony. Among the Romans, persons convicted of bigamy, were branded with a note of infamy; and in France, they were antiently punished with death.

Bigamy, in the canon law, is when a person either marries two women successively, or only marries one woman who had been married before. Both which cases are accounted impediments to be a clerk, or to hold a bishopric. It is also bigamy when a person marries a woman who had been debauched before; or when he hath known his own wife, after she has been debauched by another.

The romanists make a kind of bigamy by interpretation; as when a person in holy orders, or that has made profession of some monastic order, marries. This the bishop can dispense with on some occasions.

Spiritual bigamy is when a person holds two incompatible benefices, as two bishoprics, two vicarages, &c.

BIGGLESWADE, a market town in Bedfordshire, situated on the river Ivel, about eight miles south-east of Bedford: west longitude 20', north lat. 52° 5'.

BIGNESS, or **MAGNITUDE**. See the article **MAGNITUDE**.

BIGNONIA, the **TRUMPET-FLOWER**, in botany, a genus of the *didynamia angiospermia* class. The flower is monopetalous, with a mouth campanulated, and divided into five segments: the fruit is a pod with two cells and two valves, containing several imbricated, compressed, and winged seeds. There are no medicinal virtues ascribed to this plant. See plate XXVIII. fig. 2.

BIGOT, a person foolishly obstinate and perversely wedded to any opinion, but particularly an opinion of a religious nature.

BILANCIIS DEFERENDIS, in law, a writ directed to a corporation for carrying weights to a haven, there to weigh wool that persons were formerly licenced to transport.

BILANDER, a small flat-bottomed vessel, with only one large mast and sail, and its deck raised half a foot above the plattform. See the article **SHIP**.

BILARY PORE, *porus bilarius*. See the article **PORUS**.

BILATERAL, in a general sense, denotes something with two sides. Hence, Bilateral cognation is kinship both by the father and mother side.

BILBOA, the capital of the province of Biscay, in Spain, situated near the mouth of the river Ibaicabal, which, falling into the sea a little below it, forms a good harbour: west longitude 3° , and north latitude $43^{\circ} 30'$.

BILBOWS, a punishment at sea, answering to the stocks at land. The offender is laid in irons, or stocks, which are more or less ponderous, according to the quality of the offence of which he is guilty.

BILDESTON, a market town of Suffolk, about ten miles south east of Bury: east longitude $40'$, and north lat. $52^{\circ} 20'$.

BILDGE of a ship, the bottom of her floor, or the breadth of the place the ship rests on when she is aground. Therefore, bildge-water is that which lies on her floor, and cannot go to the well of the pump: and bildge-pumps, or burr-pumps, are those that carry off the bildge-water. They likewise say the ship is bildged, when she has some of her timber struck off on a rock or anchor, and springs a leak.

BILE, a yellow, bitter juice, separated from the blood in the liver, collected in the *porus bilarius* and gall bladder, and thence discharged by the common duct into the duodenum.

The bile is properly of two kinds, and is distinguished under them by the names of cystic and hepatic. The hepatic bile is thin, almost insipid, and scarce coloured; the cystic bile is thicker, more coloured, and very bitter.

This last, most properly called bile, as the first is denominated gall, is separated immediately from the glands of the liver into the *porus bilarius*. Its nature is such as to resist acids, and being mixed with other fluids, to give them the like property; and by a chemical analysis, is

observed to afford some sulphur, or oil, some volatile salt, and a good deal of fixed salt; in which particular it differs from all other animal liquors, and a moderate quantity of a *caput mortuum* or earth: the basis is phlegm.

As to the manner in which the bile is secreted in the liver, there are various opinions. Some maintain, that the pores of the secretory glands of the liver, have a certain configuration and magnitude, to which the particles of the bile floating in the blood, being just answerable both in bulk and figure, are admitted in, and all the rest excluded. Others have recourse to a ferment which they suppose to reside in the liver, by means of which, the particles of the blood, in their passage through the secretory ducts, assume the form of bile. Others maintain, that the fluids contained in the blood of the *vena porta*, apply indifferently to the apertures of the secretory tubes, contiguous to the extremities of the *vena porta*, and to the extreme branches of the *vena cava*; that the pores of the *cava* being too little, and those of the *porta* large enough to admit certain particles, these being separated from the society of the essential part of the blood, and exposed to the action of the bilary vessels, constitute a new humour distinct from the blood, called bile. Dr. Keil accounts for the secretion of the bile, from the strong attraction between the particles of which it is composed. But all this is very systematical. As to the quantity of the bile secreted in the liver, we are ignorant, as Dr. Haller observes, of the velocity with which the blood of the mesentery circulates; we are ignorant of the causes which may either accelerate or retard its velocity; we have not the diameters of the vessels precisely ascertained, nor indeed do they remain invariably the same; and consequently were we to pretend to fix the quantity of bile secreted in the liver in any given time, we should certainly be very erroneous in our calculations.

The use of the bile is to attenuate the chyle, to mix the oleagenous parts of the blood with the aqueous, to stimulate the intestines, and in part to change the acid of the chyle. All these effects the cystic bile produces in a greater, and the hepatic in a less degree.

The bile is a juice of great importance with regard to the good or ill habit of the animal.

animal. We have already seen how it operates upon the chyle, the blood, &c. to which we may add, that it likewise assists in digestion, by promoting putrefaction. A redundancy of bile occasions many and terrible diseases, which, according to the seat of the humors, their acrimony, or vent given them, will appear in the shape of a remitting or intermitting fever, a cholera, or dysentery. Too great an evacuation of the bile, either upwards or downwards, robs the chylefaction of its main instrument. Hence it prevents digestion, secretion, excretion of the fæces, and produces an acid temperature, coldness, weakness, paleness and swoonings. And if the bile be prevented in its discharge into the intestines, it produces a jaundice.

Of *atra bilis*, or black bile, Boerhave distinguishes three sorts. 1st. The mildest, arising from the matter of the blood put into too great a motion, which hence takes the name of adust: the 2d is an aggravation of the first, arising from the same causes, only heightened: and the 3d is a corrupt parched bile, which is the worst of all. See the article **BILIOUS**.

BILEDULGERID, one of the divisions of Africa, having Barbary on the north, and Zaara, or the desert, on the south.

BILEVELT, a town of Westphalia, in Germany, about seven miles south-east of Ravensburg: east longitude $8^{\circ} 15'$, north latitude 52° .

It is subject to the king of Prussia.

BILINGUIS, in a general sense, signifies one that speaks two languages; but in law, is used for a jury that passes in any case between an Englishman and a foreigner, whereof part ought to be English, and part strangers.

BILIOUS, in general, denotes something belonging to, or partaking of, the nature of bile. Hence,

BILIOUS FEVERS are those occasioned by the over-copiousness, or bad qualities of the bile. See the article **BILE**.

Concerning the bilious fever, which Dr. Pringle says is epidemic in marshy countries and camps, he observes, that it begins with chillness and lassitude, pains in the head and bones, and a disorder at the stomach. At night the person gets no rest, and often becomes delirious; but, generally, in the morning, an imperfect sweat brings on a remission of all the symptoms. In the evening, the paroxysm returns, but without any cold fit,

and is commonly worse than before. On the second morning, it remits as before; and these periods go on daily, till it insensibly changes either into a continued or an intermitting shape.

The doctor enumerates other symptoms of this terrible disease, as crudeness of the urine, bilious stools, costiveness, &c. and observes, that its cure, before it becomes continued, is to be attempted by evacuations, the neutral salts, and the bark. Bleeding he judges indispensable; which should be repeated once, or oftener, according to the urgency of the symptoms. After bleeding, it is proper to give an emetic during the remission of the fever; but if the stomach be inflamed, vomits are dangerous, and therefore ought never to be given. *Ipecacuanha*, he observes, is the safest and easiest, but antimonials make the most efficacious vomits. If the body remains costive, it is proper to open it by lenient physic. He likewise recommends salt of wormwood, lemon-juice, *spiritus mindereri*, and the bark; which last ought not to be given till the urine breaks, and the intermissions take place. Bleeding and purging are also necessary before the bark is given, which he thinks answers best in substance, administered in rhenish wine, after standing a night in infusion.

If it changes into a continued fever, bleeding becomes necessary; and blisters are not only useful, but the very best remedy: to these may be joined the neutral salts, and diaphoretic powders.

The doctor farther observes, that tho' a sweat be the proper crisis, it ought never to be promoted by theriaca, or the like hot medicines; unless the pulse should sink, and the petechiæ, or other bad symptoms, appear: in which case, the warmer alexipharmics are highly necessary, as the disease has then changed into a malignant fever. See the article **MALIGNANT**.

BILIOUS COLIC. See the article **COLIC**. **BILL**, an instrument made of iron, edged in the form of a crescent, and adapted to a handle. It is used by plumbers, to perform several parts of their work; by basket-makers, to cut the largest pieces of chestnut trees and other wood; and by gardeners, to prune trees. When short, it is called a hand-bill, and when long, a hedge-bill.

BILL signifies also a paper, either written or printed, in very large characters, which

which is posted up in some open and public place, to give notice of the sale of any merchandize or ship, or of the sailing of any vessel into foreign parts. The great conveniency of advertising in the public papers, makes bills of this nature less necessary in England than in other countries.

BILL in trade, both wholesale and retail, as also among workmen, signifies an account of merchandizes or goods delivered to a person, or of work done for one. In those bills, must be set down the sums of money received on account, which ought to be deducted from the sum total.

Settled BILL, a bill at the bottom of which, they to whom the goods are delivered, acknowledge that they have received them; that they are satisfied with the price, and promise to pay it. As soon as a bill is settled, the merchant or tradesman is sure against all exceptions at law, and may claim his debt even during thirty years.

BILL of credit, that which a merchant or banker gives to a person whom he can trust, empowering him to receive money from his correspondents in foreign countries. Though bills of credit be different from bills of exchange, yet they enjoy the same privileges; for the money paid in consequence of them, is recoverable by law.

BILL of entry, an account of the goods entered at the custom-house, both inwards and outwards. In this bill must be expressed, the merchant exporting or importing; the quantity of merchandize, and the divers species thereof; and whether transported, or from whence.

BILL of exchange, a piece of paper on which is written a short order, given by a merchant, &c. for paying to such a person, or his order, and in some countries to the bearer in a distant place, a sum of money equivalent to that which such a merchant, &c. has received in his dwelling-house.

There are three things necessary to constitute a bill of exchange. 1. That it be drawn in one city upon another. 2. That there be three persons concerned, the drawer, the presenter, or person for whom it is drawn, and the acceptor, or he on whom it is drawn. And, 3. That it make mention, that the value which the drawer has received, is either in bills of exchange, in money, merchandize, or other effects, which are to be expressed.

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These bills are made payable either at sight, or so many days, weeks, or months after date; the space of a month being called usance, and two or three months after date, double or treble usance. There is a difference between an inland bill and foreign bill; for an inland bill of exchange, is said to be only in the nature of a letter; but a foreign or outland bill is more regarded in law; because it is for the advantage of commerce with other countries, which makes it of a public concern.

Not only the drawer, but every indorser of a bill is liable for the payment thereof; for an indorser charges himself in the same manner, as if he had originally drawn the bill; and a plaintiff, in an action in such case, is not obliged to prove the drawer's hand, because the indorser is as a new drawer; but he must make proof that he demanded the money of the drawer, or drawers, or that he sought after, and could not find them in convenient time: for, by the custom among merchants, the indorsee is to receive the money of the first drawer, if he can, and if he cannot, then, and not before the indorser must answer it.

The forging bills of exchange, or any acceptance, and stealing such bills for money is felony.

BILL of lading, an acknowledgment signed by the master of a ship, and given to a merchant, &c. containing an account of the goods which the master has received on board from that merchant, &c. with a promise to deliver them at an intended place for a certain salary. Each bill of lading must be treble, one for the merchant who loads the goods, another to be sent to the person to whom they are consigned, and the third to remain in the hands of the master of the ship. It must be observed, however, that a bill of lading is used only when the goods sent on board a ship are but part of the cargo: for when a merchant loads a whole vessel for his own personal account, the deed passed between him and the master of the ship is called charter-party. See the article CHARTER-PARTY.

BILL of parcels, an account given by the seller to the buyer, containing the particulars of all the sorts and prices of the goods bought.

BILL of sale, is when a person wanting a sum of money, delivers goods as a security to the lender, to whom he gives this

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BIMLIPATAN, a port-town of Golconda.

da in India, where the Dutch have a factory. It is situated on the west side of the Bay of Bengal, in 83° east longitude, and 18° north latitude.

BINARY ARITHMETIC, that wherein unity, or 1 and 0, are only used.

This was the invention of Mr. Leibnitz, who shews it to be very expeditious in discovering the properties of numbers, and in constructing tables; and Mr. Dange-court, in the history of the royal academy of sciences, gives a specimen of it concerning arithmetical progressions; where he shews that, because in binary arithmetic, only two characters are used, therefore the laws of progression may be more easily discovered by it than by common arithmetic.

All the characters, used in binary arithmetic are 0 and 1, and the cypher multiplies every thing by 2, as in the common arithmetic by 10. Thus, 1 is one; 10, two; 11, three; 100, four; 101, five; 110, six; 111, seven; 1000, eight; 1001, nine; 1010, ten; which is built on the same principles with common arithmetic.

The author, however, does not recommend this method for common use, because of the great number of figures required to express a number; and adds, that if the common progression were from 12 to 12, or from 16 to 16, it would be still more expeditious.

BINARY MEASURE, in music, is a measure which is beaten equally, or where the time of rising is equal to that of falling. This is usually called common time, besides which there is a binary triple. See the articles MEASURE, TIME, and TRIPLE.

BINARY NUMBER, that composed of two units. See the article NUMBER.

BINBROKE, a market-town of Lincolnshire, about twenty-five miles north-east of Lincoln: east longitude 6° , and north latitude $53^{\circ} 32'$.

BINCH, a little fortified town of Hainault, ten miles east of Mons: east longitude $4^{\circ} 20'$, and north latitude $50^{\circ} 30'$.

BINDING, among fencers, denotes the securing the adversary's sword, which is effected by a pressure and spring from the wrist.

BINDING, in falconry, a term which implies tiring, or when a hawk seizes.

BIND-WEED, *convolvulus*, in botany. See the article CONVULVULUS.

BINGEN, a town of the electorate of

Mentz, about sixteen miles west of that city: east longitude $7^{\circ} 20'$, and north latitude 50° .

BINGLEY, a market-town, in the west-riding of Yorkshire, about thirty miles west of York: west longitude $1^{\circ} 40'$, and north latitude $53^{\circ} 45'$.

BINOCULAR TELESCOPE, a kind of dioptric telescope fitted with two tubes joined in such a manner, that one may see a distant object with both eyes, at the same time.

BINOMIAL, in algebra, a root consisting of two members connected by the sign + or -. Thus $a + b$ and $8 - 3$ are binomials, consisting of the sums and differences of these quantities.

The powers of any binomial are found by a continual multiplication of it by itself. For example, the cube or third power of $a + b$, will be found by multiplication to be $a^3 + 3a^2b + 3ab^2 + b^3$; and if the powers of $a - b$ are required, they will be found the same as the preceding, only the terms in which the exponent of b is an odd number, will be found negative. Thus, the cube of $a - b$ will be found to be $a^3 - 3a^2b + 3ab^2 - b^3$, where the second and fourth terms are negative, the exponent of b being an odd number in these terms. In general, the terms of any power of $a - b$ are positive and negative by turns.

It is to be observed, that in the first term of any power of $a + b$, the quantity a has the exponent of the power required, that in the following terms, the exponents of a decrease gradually by the same differences, viz. unit, and that in the last terms it is never found. The powers of b are in the contrary order; it is never found in the first term, but its exponent in the second term is unit; in the third term, its exponent is 2, and thus its exponent increases till in the last term it becomes equal to the exponent of the power required.

As the exponents of a thus decrease, and and at the same time those of b increase; the sum of their exponents is always the same, and is equal to the exponent of the power required. Thus, in the sixth power of $a + b$, viz. $a^6 + 6a^5b + 15a^4b^2 + 20a^3b^3 + 15a^2b^4 + 6ab^5 + b^6$, the exponents of a decrease in this order 6, 5, 4, 3, 2, 1, 0; and those of b increase in the contrary order 0, 1, 2, 3, 4, 5, 6. And the sum of their exponents in any term is always 6.

In general, therefore, if $a + b$ is to be raised to any power m , the terms without their coefficients will be $a^m, a^{m-1}b, a^{m-2}b^2, a^{m-3}b^3, a^{m-4}b^4, a^{m-5}b^5, \&c.$ continued till the exponent of b become equal to m .

The coefficients of the respective terms will be 1, $m, m \times \frac{m-1}{2}, m \times \frac{m-1}{2} \times \frac{m-2}{2},$

$\times \frac{m-2}{3}, m \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4},$

$\times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times \frac{m-4}{5},$

$\&c.$ continued until you have one coefficient more than there are units in m . See the article COEFFICIENT.

It follows therefore by these rules, that

$$\begin{aligned} a + b^m &= a^m + m a^{m-1} b + m \times \frac{m-1}{2} \times a^{m-2} b^2 + m \times \frac{m-1}{2} \times \frac{m-2}{2} \times a^{m-3} b^3 + m \times \frac{m-1}{2} \times \frac{m-2}{2} \times \frac{m-3}{3} \times a^{m-4} b^4 +, \&c. \end{aligned}$$

which is the

binomial or general theorem, for raising a quantity consisting of two terms to any power m .

The same general theorem will also serve for the evolution of binomials, because to extract any root of a given quantity, is the same thing as to raise that quantity to a power whose exponent is a fraction that has its denominator equal to the number that expresses what kind of root is to be extracted. Thus, to extract the square root of $a + b$, is to raise $a + b$ to a power whose exponent is $\frac{1}{2}$. Now $a + b^m$ being found as above; supposing $m = \frac{1}{2}$, you will find $a + b^{\frac{1}{2}} = a^{\frac{1}{2}} + \frac{1}{2} \times a^{-\frac{1}{2}} b + \frac{1}{2} \times \frac{1}{2} \times a^{-\frac{3}{2}} b^2 + \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times a^{-\frac{5}{2}} b^3 +, \&c. = a^{\frac{1}{2}} + \frac{b}{2a^{\frac{1}{2}}} + \frac{b^2}{8a^{\frac{3}{2}}} + \frac{b^3}{16a^{\frac{5}{2}}},$
 $=, \&c.$

BIOGRAPHER, one who writes the lives of particular persons, as Plutarch, Suetonius, $\&c.$ See the next article.

BIOGRAPHY, a very entertaining and instructive species of history, containing the life of some remarkable person, or persons.

Lord Bacon regrets, that the lives of eminent men are not more frequently written; for, adds he, though kings,

princes, and great personages be few; yet there are many other excellent men, who deserve better than vague reports, and barren eulogies.

BIORNBURG, a town of Finland, situated on the eastern shore of the Bothnic gulph: east long. 21° , and north lat. 62° .

BIOTA, in zoology, a genus of sea-insects, of a cylindric, but variable figure, with the tentacula arranged in a single series round the aperture of the mouth, at the extremity of the body.

Among the several other species of this genus is the polype. See POLYPE.

BIQUAC, in military affairs, a night-guard, performed by the whole army, when there is any apprehension of danger from the enemy.

BIPENNIS, in roman antiquity, an ax with a double edge, one of which was used in stabbing, and the other in cutting.

BIQUADRATIC POWER, in algebra, the fourth power or squared square of a number, as 16 is the biquadratic power of 2; for 2×2 is 4, and 4×4 is equal to 16.

BIQUADRATIC ROOT of a number, is the square root of its square root: thus the biquadratic root of 81 is 3; for the square root of 81 is 9, and the square root of 9 is 3.

BIQUADRATIC EQUATION, an equation where the unknown quantity of one of the terms has four dimensions.

Any biquadratic equation may be conceived as generated by the multiplication of four simple equations. Thus if $x=a, x=b, x=c, x=d$, or $x-a=0, x-b=0, x-c=0, x-d=0$; then will $x-a \times x-b \times x-c \times x-d = 0$, beget a biquadratic equation. Or it may be formed of two quadratic equations, as $x^2 + bx + c \times x^2 + dx + e = 0$; or, lastly, it may be produced from the multiplication of one cubic and one simple equation, as $x-a \times x^3 + cx^2 + dx + e = 0$. For the construction and resolution of biquadratic equations. See the articles EQUATION, and CONSTRUCTION of equations.

BIQUINTILE, an aspect of the planets, when they are 144 degrees from each other.

BIR, a city of Diarbeck, or Mesopotamia, situated on the river Euphrates, about seventy miles south-east of Aleppo, in 40° east long. and $35^\circ 20'$ north latitude.

BIRCH-TREE, in botany, betula. See the article BETULA.

BIRD,

BIRD, avis, in zoology, one of the six general classes of animals, the characters of which are, that their body is covered with feathers, and that they have two wings, two legs, and a bill of a firm bony or rather horny substance: add to this, that the females are all oviparous. The knowledge of birds, of the orders and genera into which they are subdivided, and of their natures, uses, figures, &c. constitutes a particular science, under the name of ornithology.

Birds have been usually divided into terrestrial and aquatic, or land and water birds; but this division is too general, as well as indeterminate: a much more certain distinction of birds is founded on the different shapes and structure of their beaks, from which alone they are naturally arranged under the six following orders. 1. The *accipitres*, or those which have the beak uncinated, or hooked. 2. The *picæ*, or those with convex and compressed beaks. 3. The *anseræ*, or those with dentated or serrated beaks. 4. The *scelopaces*, or those furnished with subcylindric and obtuse beaks. 5. The *gallinæ*, comprehending such birds as have the beak of a conic form, but crooked, and the upper chap imbricated. 6. The *passeræ*, or those with conic and attenuated beaks. See the articles ACCIPITER, PICÆ, &c.

We meet with several other distinctions of birds, taken from their manner of feeding; as carnivorous ones, or birds of prey; frugivorous and granivorous birds, or such as feed on fruits and the seeds of various plants; insectivorous birds, or those which feed principally on insects: and so in other cases.

As to the constituent parts of birds, it is remarkable that the head is generally small in proportion to the rest of the body; that the eyes are more plain and depressed than in quadrupeds; and that they have no external auricle, or ear. See the articles WING, BILL, TAIL, &c. Singing birds are valued, in the book of rates, at 9 s. the dozen, and pay duty 2 s. $1\frac{8}{100}$ d. whereof 1 s. $11\frac{2}{100}$ d. is drawn back on exporting them. All other birds are valued at 12 s. the dozen, and pay duty 2 s. $10\frac{4}{100}$ d. whereof 2 s. $7\frac{5}{100}$ d. is drawn back.

BIRD of paradise. See PARADISE.

Black Bird, the english name of the *merula vulgaris* of ornithologists. See the article MERULA.

BIRDS, in heraldry, according to their several kinds, represent either the contemplative or active life. They are the emblems of liberty, expedition, readiness, swiftness, and fear. They are more honourable bearings than fishes, because they participate more of air and fire, the two noblest and highest elements, than of earth and water.

Birds must be borne in coat-armour, as is best fitting the propriety of their natural actions of going, sitting, standing, flying, &c.

Birds that are either whole footed, or have their feet divided, and yet have no talons, are said to be membered; but the cock, and all birds of prey with sharp and hooked beaks and talons, for encounter or defence, are termed armed. In the blazoning of birds, if their wings be not displayed, they are said to be borne close; as, he beareth an eagle, &c. close.

BIRD-LIME, a viscid substance, prepared after different ways. The most common bird-lime among us, is made from holly-bark, boiled ten or twelve hours; when the green coat being separated from the other, it is covered up a fortnight in a moist place, then pounded into a tough paste, so that no fibres of the wood are discernible, and washed in a running stream till no motes appear; put up to ferment four or five days, skimmed as often as any thing arises, and laid up for use. To use it, a third part of nut-oil, or thin grease, must be incorporated with it over the fire,

The Italians make bird-lime of the berries of the mistle-tree. That which comes from Damascus is supposed to be made of sebestens: and it is said that the bark of our *lantana*, or way-faring shrubs, will make very good bird-lime.

BIRD'S NEST, in botany, the english name of the neottia. See the article NEOTTIA.

BIRD'S NESTS, in cookery, the nests of a small indian swallow, very delicately tasted, and frequently mixed among soups. On the sea-coasts of China, at certain seasons of the year, there are seen vast numbers of these birds; they leave the inland country at their breeding-time, and come to build in the rocks, and fashion their nests out of a spumous matter, which they find on the shore washed thither by the waves. They are of a hemispheric figure, and of the size of a goose's egg, and, in substance, much resemble the ichthyocolla or isinglass.

The

The Chinese gather these nests, and sell them to all parts of the world; they dissolve in broths, &c. and make a kind of jelly of a very delicious flavour.

BIREMIS, in roman antiquity, a vessel with two rows of oars, concerning the disposition of which authors are not agreed.

BIRETUM, or **BIRRETUM**, a sort of black bonnet, or covering of the head, in form of a pyramid, much used in Italy and France about five or six hundred years ago, as a badge of victory, honour, or sacerdotal preferment.

BIRKENFIELD, a town of Germany, about forty miles west of Mentz, situated in 6° 40' east longit. and 49° 45' north latitude.

BIRMINGHAM, a large populous town in Warwickshire, about sixteen miles north-west of Coventry, situated in 1° 50' west long. and 52° 30' north lat.

It is remarkable for its iron manufactory.

BIROTA, or **BIROTUM**, in roman antiquity, a kind of vehicle, so denominated from its moving upon two wheels. It carried about two hundred pound weight, and was drawn by three mules.

BIRRUS, in roman antiquity, a cloak, made of woollen cloth, worn by the soldiers: also a robe worn by the priests or bishops.

BIRTH, *partus*, in midwifery, signifies the same with delivery. See the article **DELIVERY**.

An immature birth, or that which happens before the usual time of pregnancy is completed, is otherwise called an abortion. See the article **ABORTION**.

For the proportion of births to marriages, burials, &c. See the articles **MARRIAGE**, **MORTALITY**, &c.

After-BIRTH. See **AFTER-birth**.

BIRTH, or **BIRTHING**, in the sea-language, a convenient place to moor a ship in; also a due distance observed by ships lying at anchor, or under sail; and a proper place aboard for a mess to put their chests, &c. is called the birth of that mess.

BIRTH-WORT, *aristolochia*, in botany, a genus of the *gynandria-hexandria* class of plants, the flower of which consists of a single petal, of a ligulated form, and a pale colour; there stand several of them together at the axæ of the leaves: the fruit is a large roundish capsule, as big as an apple; the seeds are numerous, depressed, and disposed in six cells, See plate XXVIII. fig. 4.

The roots of this plant are said to be cephalic, vulnerary and uterine; they are also classed by some among the alexipharmics, and recommended highly in diseases of the breast: the principal virtue, however, now ascribed to them is that of promoting the menses, and the lochia after delivery: it is said to have so much force this way, as to cause abortion if given to a woman with child.

BIRZA, a town of Samogitia, in Poland, about forty-two miles south-east of Mitau, situated in 25° east long. and 56° 35' north latitude.

BISCAY, the most northerly province of Spain, from which the Bay of Biscay takes its name.

New BISCAY, a province of Mexico, having new Mexico on the north, and Florida on the west.

BISCHWEILLER, a fortress of Alsace, subject to the French, situated about five miles west of Port Lewis, in 7° east lon. and 48° 40' north latitude.

BISCUTELLA, in botany, a genus of the *tetradynamia-siliculosa* class of plants, called by Tournefort *thlaspidium*, the flower of which is cruciform, consisting of four petals; and its fruit a small, bilocular, erect, and compressed pod, containing a single, roundish, and compressed seed.

BISERRULA, in botany, a genus of the *diadelphia-decandria* class of plants: the flowers are papilionaceous, small, and reddish, standing in clusters on long pedicles; the fruit is a large pod with two cells, containing numerous kidney-shaped and compressed seeds.

BISERTA, a port-town of the kingdom of Tunis, in Africa, situated on the Mediterranean, near the place where Utica antiently stood, and about forty miles north of Tunis, in 9° east lon. and 37° north latitude.

BISHOP, *ἐπίσκοπος*, a prelate, or person consecrated for the spiritual government of a diocese.

Whether the distinction of bishops from mere priests or presbyters be of divine or human right, whether it was settled in the apostolical age, or introduced since, is much controverted. It is certain, that in the New Testament the names of bishops and priests are used indifferently; but tradition, the fathers, and the apostolical constitutions make a distinction. From this last consideration bishops are conceived as the highest ecclesiastical dignities,

nities, the chief officers in the hierarchy, or œconomy of church-government, as the fathers and pastors of the faithful, the successors of the apostles, and, as such, the superiors of the church of Christ.

In the primitive church it appears that there was but one bishop in a church, and but one church to a bishop; the peculiar acts of the episcopal function were preaching the word, praying with the people, administering the two sacraments of baptism and the eucharist, taking care of the poor, ordaining of ministers, governing his flock, excommunicating offenders, and absolving of penitents. The election of a bishop was jointly in the hands of the clergy and laity of the bishopric or parish which became vacant; when they elected a bishop, they presented him to the neighbouring bishops, for their approbation and consent, without which his election was not valid. A bishop thus chosen and ordained, always gave notice of his advancement to the most renowned bishops of the church.

As to the form of ordination, it was thus; two bishops held the book of the gospels over the head of that bishop which was ordained, and whilst one pronounced the blessing, or prayer of consecration, all the rest of the bishops that were present laid their hands upon his head.

In the church of Rome the pope has the chief right of electing bishops, nevertheless some princes have reserved to themselves the right of nominating to bishoprics, after which the pope sends his approbation, and the bulls to the new bishop. When a person hears that the pope has raised him to the episcopal dignity, he enlarges his shaven crown, dresses himself in purple, and if he be in Rome, he must go and receive the rochet from the pope; three months after having been confirmed in his election, he is consecrated in a very solemn manner.

Upon the vacancy of a bishop's see in England, the king grants his *congé d'escire* to the dean and chapter, to elect the person whom, by his letters missive, he hath appointed; and if they do not make the election in twenty days, they are to incur a *premunire*. The dean and chapter having made their election accordingly, the archbishop, by the king's direction, confirms the bishop, and afterwards consecrates him, by imposition of hands, according to the form laid down in the Common prayer book. Hence we

see that a bishop differs from an archbishop in this, that an archbishop with bishops consecrates a bishop, as a bishop with priests consecrates a priest: other distinctions are, that an archbishop visits a province, as a bishop a diocese; that an archbishop convokes a provincial synod, as a bishop does a diocesan one; and that the archbishop has canonical authority over all the bishops of his province, as a bishop has over the priests of his diocese.

The jurisdiction of a bishop of the church of England consists in collating benefices, granting institutions, commanding inductions, taking care of the profits of vacant benefices for the use of the successors, consecrating churches and chapels, ordaining priests and deacons, confirming after baptism, granting administrations, and taking probates of wills; these parts of his function depend upon the ecclesiastical law. By the common law, he is to certify to the judges concerning legitimate and illegitimate births and marriages; and to his jurisdiction, by the statute law, belongs the licensing of physicians, surgeons, and school-masters, and the uniting of small parishes, which last privilege is now peculiar to the bishop of Norwich.

All bishops of England are peers of the realm, except the bishop of Man, and as such sit and vote in the house of lords; they are barons in a threefold manner, *viz.* feudal, in regard to the temporalities annexed to their bishoprics; by writ, as being summoned by writ to parliament; and lastly, by patent and creation: accordingly they have the precedence of all other barons, and vote as barons and bishops, and claim all the privileges enjoyed by the temporal lords, excepting that they cannot be tried by their peers, because, in cases of blood, they themselves cannot pass upon the trial, for they are prohibited, by the canons of the church to be judges of life and death.

BISHOP'S COURT, an ecclesiastical court, held in the cathedral of each diocese, the judge whereof is the bishop's chancellor, who judges by the civil and canon law; and if the diocese be large, he has his commissaries in remote parts, who hold what they call consistory courts, for matters limited to them by their commission.

BISHOP'S-CASTLE, a borough town in Shropshire, situated on the river Ony, about

about fifteen miles south-west of Shrewsbury; west long. 3° , and north latitude $52^{\circ} 30'$.

BISHOP AND HIS CLERKS, some little islands and rocks on the coast of Pembroke-shire, not far from St. David's, very fatal to mariners.

BISHOP'S-STORTFORD, a market-town in Hertfordshire, thirty miles north of London, and only ten miles north-east of Hertford; east longit. $20'$, and north latitude $51^{\circ} 50'$.

BISHOPING, a term among horse-courers, to denote the sophistications used to make an old horse appear young, a bad one good, &c.

BISHOPRIC, the district over which a bishop's jurisdiction extends, otherwise called a diocese.

In England there are twenty-four bishoprics, and two archbishoprics; in Scotland, none at all; in Ireland, eighteen bishoprics and four archbishoprics; and in popish countries they are still more numerous.

BISIGNANO, a city of the hither Calabria, in the kingdom of Naples; east lon. $16^{\circ} 45'$, and north latit. $39^{\circ} 50'$.

BISKET, a kind of bread prepared by the confectioners, of fine flour, eggs, and sugar, and rose or orange-water; or of flour, eggs, and sugar, with aniseeds and citron-peel, baked again and again in the oven, in tin or paper moulds. There are divers sorts of biscuits, as seed biscuit, fruit-biscuit, long-biscuit, round-biscuit, naples-biscuit, sponge-biscuit, &c.

Sea-BISKET is a sort of bread much dried by passing the oven twice, to make it keep for the sea service. For long voyages they bake it four times, and prepare it six months before the embarkation. It will hold good a whole year.

BISMUTH, in natural history, a genus of the semi-metals, as they are called; the most usual appearance of which is in form of an ore, intimately mixed with silver, a large quantity of arsenic, and an earthy matter, which yields a blue colour equal to the zaffer or smalt procured from cobalt.

This ore is usually of a bright silvery white, and of an irregularly foliaceous structure, though sometimes found granulated. In the fusion of this ore the sulphur and arsenic evaporate, and the reguline matter being thereby freed from its imprisoned state, runs off from the earthy matter, which remains fixed behind. See the article **SMALT**.

Bismuth is sometimes found native, in small compact masses, of a pale lead colour on the out-side, but a silvery white within.

Bismuth attenuates the parts of all other metals, and thereby promotes their fusion. It is soluble in vinegar, like lead: dissolved in stronger acids, it yields the famous cosmetic magistery, and is a very valuable ingredient in the mixed metals used in casting types, and for bell-metal.

Bismuth is very common in Germany, and not unfrequently found in the tin-mines of Cornwall, though little known, or at least regarded there.

BISNAGAR, the capital of a province of the same name in the hither peninsula of India: east longitude 78° , and north latitude 14° .

BISNOW, or **BISCHNOU**, a sect of the Banians in the East Indies; they call their god Ram-ram, and give him a wife: they adorn his image with golden chains, necklaces of pearls, and all sorts of precious stones. They sing hymns in honour of their god, mixing their devotion with dances and the sound of drums, flagelets, brazen basons, and other instruments. This sect lives wholly upon herbs and pulse, butter and milk.

BISOMUM, or **DISOMUM**, in roman antiquity, a sepulchre, or vault, containing two dead bodies. On the tombs of the primitive christians were wont to be inscribed the words *bisomi* or *trisomi*, or *quadrisomi*, &c. that by these means they might the easier calculate the number of their dead.

BISQUET, or **BISKET**. See **BISKET**.

BISSECTION, in geometry, the division of a line, angle, &c. into two equal parts, See the articles **LINE**, **ANGLE**, &c.

BISSEXTILE, in chronology, a year consisting of three hundred and sixty-six days, being the same with our leap-year.

The true solar year, or that space of time which flows while the sun is moving from any one point of the ecliptic, till he returns to the same point again, consists of 365 days, 5 hours, 48 minutes, 57 seconds. The year made use of by the ancient Egyptians consisted of 365 days, which being less than the true solar year by nearly six hours, they lost a day every four years. Julius Cæsar being high-priest among the Romans, and considering the inconveniences arising from this method of computation, ordered that every fourth year should have an intercalary

calary day, and that this additional day should be added to the month of February; wherefore this method of computation is called the julian account, or old stile. See the article LEAP-YEAR.

Yet, as the true length of the year consists of 365 day, 5 hours, 49 minutes nearly, it follows that, according to this way of reckoning, at the end of every four years the civil year will begin 44 minutes sooner than it did before, consequently in 311 years, it will anticipate by one whole day: for this reason pope Gregory XIII. set himself upon reforming the calendar, and finding, in the year 1582, that the equinox had anticipated ten whole days, he ordered that these ten days should be taken out of the calendar that year, and the 11th of March should be reckoned the 21st, and ordered that every hundred year, which, according to the julian form, was to be bissextile, should be a common year, and consist of 365 days: but because that was too much, every four hundred year was to remain bissextile. This method of computation is called the gregorean, or new stile; it was received in most foreign countries ever since the reforming of the calendar; and by act of parliament passed in 1751, it commenced in all the dominions under the crown of Great-Britain, in the year following, ordering that the natural day following the second of September, should be accounted the fourteenth, omitting the intermediate eleven days of the common calendar.

BISTER, or **BISTRE**. See **BISTRE**.

BISTORT, *polygonum*, in botany, a genus of the *octandria-trigynia* class of plants, whose corolla consists of a single petal, narrow at the base, and imperforated: the limb is erect, and divided into five oval and alternately connivent segments; the flower remains, and supplying the place of a pericarpium, surrounds the seed, which is single, triquetrous, and acute. See plate XXVIII. fig. 5.

The root is astringent, vulnerary, and alexipharmic.

BISTOURY, in surgery, an instrument for making incisions, of which there are different kinds, some being of the form of a lancet, others strait and fixed in the handle like a knife, and others crooked with the sharp edge on the inside.

BISTRE, or **BISTER**, among painters, denotes glossy foot, pulverised and made into a kind of cakes, with gum-water.

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It is used to wash their designs. See the article WASHING.

BIT, or **BITT**, an essential part of a bridle. Its kinds are various: 1. The muffle, snaffle, or watering-bit. 2. The canon-mouth, jointed in the middle. 3. The canon with a fast mouth, all of a piece, only kneed in the middle, to form a liberty or space for the tongue; fit for horses too sensible, or ticklish, and liable to be continually bearing on the hand. 4. The canon-mouth, with the liberty in form of a pigeon's neck; proper where a horse has too large a tongue. 5. The canon with a port mouth, and an upset or mounting liberty; used where a horse has a good mouth but a large tongue. 6. The scratch-mouth, with an upset; ruder but more secure than a canon-mouth. 7. The canon-mouth, with a liberty; proper for a horse with a large tongue and round bars. 8. The multi-cadour, or flavering-bit, &c. The several parts of a snaffle, or curb bit, are the mouth-piece, the cheeks and eyes, guard of the cheeks, head of the cheeks, the port, the welts, the campanel or curb and hook, the bosses, the bolsters and rabbets, the water-chains, the side-bolts, bolts and rings, kirbles of the bit or curb, trench, toprol, flap, and jeive.

The importation of bits for bridles is now prohibited.

BIT also denotes the iron part of a piercer, augre, and the like instruments.

BIT, or **BITTS**, in ship-building, the name of two great timbers, usually placed abaft the manger, in the ship's loof, thro' which the cross-piece goes: the use of it is to belay the cable thereto, while the ship is at anchor.

BITCH, the female of the dog-kind. See the article DOG.

BITE, *morfus*, in surgery, a solution of continuity, made by the teeth of some animal, as dog, wolf, &c.

Heister observes, that the bite of enraged animals, though they were not mad at the time they inflicted them, are usually attended with very grievous consequences. If the wound is slight, the discharge of blood from the part is to be encouraged by pressing it with the fingers, sucking it in the mouth, or by the application of cupping glasses, or enlarging it with a lancet. It is afterwards to be washed with warm spirit of wine, and bolsters dipped in the same liquor, are to be applied to it, repeating the application every three

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or four hours, all all danger of inflammation is gone off. If the wound be considerably deep, it is always necessary to enlarge it with the knife, unless it have already a very large opening; and, after applying spirit of wine for the first days, to prevent the bad symptoms, it may be easily healed with honey, or some digestive ointment, and afterwards with a vulnerary balsam, as usual in other wounds. See the articles **HYDROPHOBIA** and **WOUND**.

BITE is also used, figuratively, for the action of sharp bodies upon other substances: thus, a file is said to bite iron, &c.

BITONTO, a city of the province of Barri, in the kingdom of Naples, situated about eight miles south-west of Barri, in $17^{\circ} 40'$ east long. and $41^{\circ} 20'$ north lat.

BITTACLE, on ship-board, a square box standing before him that steers the ship, with the compass placed therein, to keep and direct the ship in her course.

BITTER, *amarus*, an epithet given to all bodies of an opposite taste to sweetness. Bitters are accounted stomachic and cleansing, and are said to resist putrefaction, correct acidities, and assist digestion; though there are not wanting some who will have them to be hurtful to the stomach, except in so far as their astringency contributes to brace the fibres.

BITTER, a sea-term, signifying any turn of the cable about the bits, so as that the cable may be let out by little and little. And when a ship is stopped by a cable, she is said to be brought up by a bitter. Also that end of the cable which is wound about the bits is called the bitter end of the cable.

BITTER-APPLE, in botany, a name given to the *calocynthis*. See **COLOCYNTHIS**.

BITTER-VETCH, the *orobus* of botanists. See the article **OROBUS**.

BITTERN, in ornithology, the english name of the *ardea stellaris* of zoologists: it is about the size of the common heron. See the article **ARDEA**.

BITTERN, in the salt-works, the brine remaining after the salt is concentered: this they ladle off, that the salt may be taken out of the pan, and afterwards put in again; when, being farther boiled, it yields more salt. See the article **SALT**.

BITUMEN, in natural history, an inflammable fossil substance, otherwise called asphaltum. See the article **ASPHALTUM**. Besides the bitumen judaicum, mentioned under the article **ASPHALTUM**, there

are other kinds, viz. a hard stinking black kind, found in great plenty about the Dead-sea; it yields an oil which is an excellent cement, and is supposed to be the bitumen which we are told supplied the place of mortar in building the walls of Babylon. 2. The brownish black stinking bitumen, common in Germany, and even with us, under the name of pitch-stone.

BIVALVES, one of the three general classes of shell-fish, comprehending all those, the shells of which are composed of two pieces, joined together by a hinge.

Of this class we have only the six following genera: 1. The oysters. 2. The chamæ. 3. The muscles. 4. The heart-shells. 5. The scallops. 6. The razor-shells. See the articles **OYSTER**, **CHAMA**, **MUSCLE**, &c.

BIVALVE is also an appellation given to such pods, or capsules, as consist of two valves inclosing the seeds.

BIVENTER, in anatomy, called also digastric, or two-bellied, a muscle of the lower jaw, that has its origin in the incisive under the mastoid process. The tendon of it often passes the stylo-hyoidæus muscle, and the membranaceous ring affixed to the os hyoides, in the manner of a pulley, and is then inserted by a synchondrosis into the internal part of the chin. The mouth is opened by means of this trochlea, in a most wonderful and elegant manner.

BIXA, in botany, a genus of the *polyandriamono-gynia* class of plants. The flower is double, the exterior one consisting of five oblong, equal, and thick petals, and the interior of five petals also, like those of the other, but thinner; the fruit is an ovato-cordate compressed capsule, beset with hairs, formed of two valves, opening at the angles, with only one cell with an interior bivalve membrane; the seeds are numerous, turbinate, and truncated at the umbilicus.

BIZARRO, in the italian music, denotes a fanciful kind of composition, sometimes fast, slow, soft, strong, &c. according to the fancy of the composer.

BIZOCHI, or **BISOCHI**, in church-history, certain heretical monks, said to have assumed the religious habit contrary to the canons, rejected the sacraments, and maintained other errors.

BLACK, a well-known colour, supposed to be owing to the absence of light; all the rays thereof being imbibed by the black bodies. See **COLOUR** and **LIGHT**.

Black

Black bodies are not only warmer, but more inflammable than others, as is proved by various experiments, for which the curious may consult Boyle, 'S Gravefande, and other philosophers who have treated of this subject.

BLACK, among dyers, one of the five simple and mother colours, used in dying. It is made differently, according to the several qualities of the stuffs that are to be dyed. For stuffs of a high price, as woollen cloth, an ell and a half or an ell and a quarter wide, broad and narrow ratteens, fine woollen druggets, &c. they must use a black made of the best woad and indigo, inclining to a bluish brown. The goodness of the composition consists in there being not above six pounds of indigo ready prepared to each ball of woad, when the latter, being in the tub, begins to cast its blue flower; and in not being heated for use above twice; after which it must be boiled with alum, tartar, or ashes of lees of wine, then maddered with common madder, and lastly the black must be given with gall nuts of Aleppo, copperas, and sumach. As for more indifferent stuffs, such as small ratteens and shalloons, as they cannot pay for the expence of maddering, it is sufficient that they be well boiled with woad, and afterwards blacked with gall and copperas. There is likewise the jesuit's black, which is made with the same ingredients as the good black, but without having first dyed the stuff blue.

German BLACK, called by some frankfort black, is made with the lees of wine, burnt, washed afterwards in water, then ground in mills made for that purpose, with ivory, bones, or peach-stones, also burnt. It comes from Frankfort, Meniz, and Straßbourg, either in lumps or powder, and must be chosen moist, without having been wetted, of a fine shining black, soft, friable, light, and with as few shining grains as possible.

Ivory-BLACK, otherwise called velvet-black, is burnt ivory, which becoming quite black, and being reduced to thin plates, is ground in water, and made into troches, to be used by painters, and by jewellers, who set precious stones, to blacken the ground of the collets, and give the diamonds a teint or foil. In order to be good, it ought to be tender, friable, and thoroughly ground.

Bone-BLACK is made with the bones of oxen, cows, &c. and is used in painting; but is not so much esteemed as ivory-black.

Hart's BLACK, that which remains in the retort after the spirits, volatile salt, and oil have been extracted from hart's-horn. It answers the purposes of painters almost as well as ivory-black.

Spanish BLACK is nothing but burnt cork: it is used in several works. It should be light, and have as few grains of sand mixed with it as possible.

Lamp-BLACK, or **Lam-BLACK**, the sooty smoke of rosin. There is some in powder and some in lumps, and is mostly brought from Sweden and Norway, and pays duty 1l. res. 4⁸⁰/₁₀₀ d. the hundred weight. It is used on various occasions, particularly for making the printers ink, for which purpose it is mixed with oil of walnuts, or linseed, and turpentine, all boiled together.

Earth-BLACK, a sort of coals found in the ground, which the painters and limners use to paint in fresco, after it has been well ground.

There is also a black made with gall-nuts, copperas, or vitriol, such as common ink. And a black made with silver and lead, which serves to fill up the cavities of engraved things.

Currier's BLACK, a black made with gall-nuts, sour beer, and old iron, termed the first black. The second black, which gives the gloss of the leather, is composed of gall-nuts, copperas, and gum arabic.

BLACK, in heraldry, is called sable. See the article **SABLE**.

BLACK, in the manege. Horses entirely black, are accounted dull; but those with a white foot, or white spot in their forehead, are not without sprightliness.

BLACK BANK, in geography, a town of Ireland, about seven miles south of Armagh, in 6° 50' west long. and 54° 12' north latitude.

BLACK-BIRD, a species of *turdus*, called merula. See **TURDUS** and **MERULA**.

BLACK-BOOK of the *exchequer*. See the article **EXCHEQUER**.

BLACK-BOURN, a market town of Lancashire, about nine miles east of Preston, in 2° 20' west long. and 53° 40' north lat.

BLACK-FOREST, a part of Swabia, divided from Switzerland, by the river Rhine.

BLACK-LEAD. See **PLUMBAGO**.

BLACK-MAIL, a link of mail, or small pieces of metal or money. In the counties of Northumberland, Cumberland, and Westmoreland, it was formerly taken for a certain rent of money, corn, cattle, or other consideration, paid by poor people near the borders, to persons of note and

power, allied with some moss-troopers, or known robbers, in order to protect them from pillage.

BLACK-ROD. See the article **ROD**.

BLACK-SEA, the same with the *Euxine-sea*, lying north of *Natolia*, between 29° and 44° east longitude, and 42° and 46° north latitude.

BLACK-WATER, the name of two rivers in Ireland, one of which runs through the counties of *Cork* and *Waterford*, and falls in *Youghal bay*; and the other, after watering the county of *Armagh*, falls into *Lough Neagh*.

BLACKS; in physiology. See **NEGROES**.

BLADDER, a thin membranous substance, found in several parts of an animal, serving as a receptacle of some juice, or of some liquid excrement, as the urinary bladder, gall bladder, &c.

Bladder, by way of eminence, or urinary bladder, is a membranaceous hollow body, of the figure of a pear, situated in the pelvis, and destined to collect, and at a proper time, to expel the urine. Its size is such, that it will conveniently hold about a pint in adults; but it is capable of distension so as to hold much more. It is connected, in the human body, in a singular manner, by the peritonæum to the os pubis, otherwise than in other animals: it is also connected with the parts of generation by the urethra; with the navel by the urachus and umbilical arteries; and finally, in men, with the intestinum rectum; and in women, with the vagina. It is divided into three parts, the body, the neck, and the fundus or bottom. The coats of the bladder are much thinner in the body and the fundus than they are at the neck. Its blood-vessels come from the hypogastric, the umbilical, and the hæmorrhoidal vessels in men; and in women, from the spermatics also. Its nerves are from the intercostals, and principally from those of the os sacrum.

Its structure is membranaceous, and consists of three coats: the first is called the common membrane; this is continuous with the peritonæum, and surrounds only the bottom of the bladder. The second coat is muscular, and is composed of several fibres, running in various directions, but principally longitudinal and transverse. The third, or inner coat, is nervous, and is covered with a peculiar fluid of a mucous nature, which is secreted in glands situated in this coat, and principally in that

part which is near the neck of the bladder. The sphincter of the bladder is composed of a series of transverse fibres, running cross-ways under the strait fibres of the neck of the bladder, in form of a circle, and serving to close it, to prevent the involuntary discharge of the urine. The bladder has three foramina; two where the ureters enter in, at which the urine is thrown into the bladder; and one, much larger than these, in the neck, for the discharge of the urine into the urethra.

The diseases of the bladder are the stone, inflammations, ulcers, &c. See the article **STONE**, &c.

For the other bladders of the body, see the article **VESICULA**.

In commerce, bladders pay duty of importation $\frac{95\frac{1}{2}}{100}$ d. the dozen.

Air-**BLADDER**, in physiology. See the article **AIR BLADDER**.

BLADDER-NUT. See **STAPHYLÆA**.

African **BLADDER-NUT.** See **ROYENA**.

Laurel-leaved **BLADDER-NUT.** See the article **DODONÆA**.

BLADDER-PUCERON. See **PUCERON**.

BLADE, in botany, a name sometimes given to the flower-petals.

BLADE, in commerce, a slender piece of metal, designed for cutting: thus we meet with sword-blade, blade of a chissel, blade of a saw, &c.

BLÆRIA, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which is monopetalous and campanulated: the tube is cylindric, of the length of the cup, and pervious: the limb is small, and divided into four oval reflex segments: the fruit is an oblong quadrangular capsule, with four cells, containing several roundish seeds.

BLAIN, among farriers, a distemper incident to beasts, being a certain bladder growing on the root of the tongue, against the wind-pipe, which swells to such a pitch, as to stop the breath. It comes by great chafing and heating of the stomach, and is perceived by the beast's gaping and holding out his tongue, and foaming at the mouth; to cure it, cast the beast, take forth his tongue, and then slitting the bladder, wash it gently with vinegar and a little salt.

BLAIR of Athol, a small town of *Athol*, in *Scotland*, situated about twenty-eight miles north of *Perth*.

BLAMONT, a town of *Lorraine*, about twenty-

twenty-eight miles south-east of Nancy : east lon. $6^{\circ} 45'$, and north lat. $48^{\circ} 38'$.

BLANC, or **BLANK**. See **BLANK**.

BLANCH FERM, according to Blount, is a white farm, where the rent was paid in silver, and not in cattle. The crown-rents were often reserved *in libris albis*, or blanch fermes, in which case the buyer or farmer was holden *dealtbare firmam*, i. e. his money, worse than the standard, was to be melted down in the exchequer, and reduced to the fitness of standard ; or instead of that he paid to the king 12 d. in the pound, by way of addition.

BLANCHING, in a general sense, denotes the art of bleaching or whitening.

BLANCHING of copper is done various ways, so as to make it resemble silver. If it be done for sale, it is felony by 8 and 9 William III. ch. xxvi.

BLANCHING, in coinage, the operation performed on the planchets or pieces of silver, to give them the requisite lustre and brightness. They also blanch pieces of plate, when they would have them continue white, or have only some parts of them burnished.

Blanching, as it is now practised, is performed by heating the pieces on a kind of peel with a wood-fire, in the manner of a reverberatory ; so that the flame passes over the peel. The pieces being sufficiently heated and cooled again, are put successively to boil in two pans, which are of copper : in these they put water, common salt, and tartar of montpelier. When they have been well drained of this water in a copper sieve, they throw sand and fresh water over them ; and when dry, they are well rubbed with towels.

BLANCHING, among gardeners, an operation whereby certain sallets, roots, &c. are rendered whiter than they would otherwise be.

It is this : after pruning of the tops and roots of the plants to be blanched, they plant them in trenches about ten inches wide, and as many deep, more or less, as is judged necessary ; as they grow up, care is taken to cover them with earth, within four or five inches of their tops : this is repeated, from time to time, for five or six weeks, in which time they will be fit for use, and of a whitish colour, where covered by the earth.

BLANCHING also denotes the operation of covering iron plates with a thin coat or crust of tin. See the article **LATTEN**.

BLANCO, or **Cape-BLANCO**, a promon-

tory of Peru, in south America : west longitude 81° , and south latitude $3^{\circ} 45'$.

BLANCO is also the name of one of the Antille-islands, on the coast of Terra Firma : west longitude 64° , and north latitude 12° .

Cape-BLANCO is also a promontory of Africa, in 18° west lon. and 20° north lat.

BLANDFORD, a market town of Dorsetshire, ten miles north of Pool : west lon. $2^{\circ} 20'$, and north latitude $50^{\circ} 50'$.

BLANES, a port-town of Catalonia, in Spain ; east longitude $2^{\circ} 40'$, and north latitude $41^{\circ} 30'$.

BLANK, or **BLANC**, properly signifies white. See the article **WHITE**.

BLANK, in commerce, a void or unwritten place which merchants sometimes leave in their day-books or journals. It is also a piece of paper at the bottom of which a person has signed his name, the rest being void. These are commonly intrusted into the hands of arbiters, to be filled up as they shall think proper, to terminate any dispute or law-suit.

BLANK-BAR, in law, the same with common bar. See the article **BAR**.

BLANK-TICKETS, in lotteries, those drawn without any prize.

BLANK-VERSE, in the modern poetry, that composed of a certain number of syllables, without the assistance of rhyme. See the articles **VERSE** and **RHYME**.

Point BLANK, See **POINT-BLANK**.

BLANKENBURG, a town of dutch Flanders, eight miles north-east of Ostend : east lon. 3° , north lat. $51^{\circ} 20'$.

BLANKENBURG is also the name of a town in lower Saxony, about forty-five miles south east of Wolfenbuttle ; east lon. $11^{\circ} 15'$, and north latitude $51^{\circ} 50'$.

BLANKET, a coverlet for a bed. A stuff commonly made of white wool, and wrought in a loom like cloth ; with this difference, that they are crossed like serges.

When they come from the loom, they are sent to the fuller ; and after they have been fulled and well cleaned, they are napped with a fuller's thistle.

There are also blankets made with the hair of several animals, as that of goats, dogs, and others.

French blankets, called parish mantles, pay duty 12 s. 11 d. each, if coloured and the manufacture of France ; otherwise only 5 s. 1 $\frac{6}{10}$ d. If uncoloured, and the manufacture of France, they pay each 9 s. 8 $\frac{2}{10}$ d. otherwise only 3 s. 10 $\frac{2}{10}$ d. Blankets imported into France, pay a duty

duty of importation according to their fineness; namely, those of fine wool, six livres *per* piece; those of coarse and middling wool, three livres. None can be imported but by the way of Calais and St. Vallery.

BLANQUILLE, in commerce, a small silver coin current in the kingdom of Morocco, and all that part of the coast of Barbary: it is worth about three half-pence of our money.

BLARE, in commerce, a small copper coin of Bern, nearly of the same value with the ratz.

BLAREGNIES, a town of the austrian Netherlands, about seven miles south of Mons; east longitude $3^{\circ} 55'$, and north latitude $50^{\circ} 30'$.

BLASIA, in botany, a genus of plants belonging to the *cryptogamia algarum* class. The male flower is monophyllous, ovated at the base, of a cylindric figure at the middle, and truncated at the apex. The female flower is scarce visible. The pericarpium contains a few roundish seeds.

BLASPHEMY, an indignity or injury offered to the Almighty, by denying what is his due, and of right belonging to him; or by attributing to the creature that which is due only to the creator.

The primitive church distinguished blasphemy into three sorts. 1. The blaspheming of apostates, whom the heathen prosecutors obliged not only to deny, but to curse Christ. These blasphemers were punished with the highest degree of ecclesiastical censure. 2. The blasphemy of heretics, and other prophane christians. In this sense they included not only those who maintained impious doctrines, but those who uttered prophane and blasphemous words, derogatory to the majesty and honour of God. The same punishment that was inflicted upon heretics and sacrilegious persons, was consequently the lot of this sort of blasphemers. 3. The blasphemy against the Holy Ghost, concerning which the opinions of the antients varied. Some apply it to the sin of lapsing into idolatry and apostacy, in denying Christ in time of persecution. Others made it consist in denying Christ to be God; others, in denying the divinity of the Holy Ghost; and others place it in a perverse and malicious ascribing the operations of the holy spirit, to the power of the devil; and that against express knowledge and conviction of conscience.

Blasphemy, among the Jews, was punish-

ed by stoning the offender to death. With us, it is punishable at common law, by fine and pillory. And by a statute of William III. if any person shall, by writing or speaking, deny any of the persons in the trinity, he shall be incapable of any office; and for the second offence, be disabled to sue in any actions, to be an executor, &c.

BLAST, in a general sense, denotes any violent explosion of air, whether occasioned by gun-powder, or by the action of a pair of bellows.

BLASTS, among miners, the same with damp. See the article DAMPS.

BLAST, or **BLIGHT**, in husbandry. See the article BLIGHT.

BLASTING, a term used by miners for the tearing up rocks, which lie in their way, by the force of gun-powder.

In order to do this, a long hole is made in the rock, which being charged with gun-powder, they fill it up; leaving only a touch-hole, with a match to fire the charge.

BLATTA, the **MILL-BEETLE**, in the history of insects, is a genus of insects of the series of the tetraptera, or those which have four wings, and the order of the coleoptera: the antennæ are setaceous; there are two short horns above the tail; the exterior wings are membranaceous; and the insect is of the size of the common cricket; its colour is a deep ferrugineous brown, approaching to black.

BLAVET, or **PORT-LEWIS**, a port-town of Brittany, in France, situated at the mouth of the river Blavet; west longitude 3° , and north latitude $47^{\circ} 40'$.

BLAWBUREN, a town of Swabia, in Germany, about eleven miles east of Ulm; east longitude $9^{\circ} 45'$, and north latitude $48^{\circ} 24'$.

BLAYE, a fortress of Guienne, in France, situated on the river Garonne, about twenty-one miles north of Bourdeaux; west long. $45'$, and north lat. $45^{\circ} 7'$.

The intention of it is, to hinder any ship from going to Bourdeaux without permission.

BLAZE, a white spot in a horse's face.

BLAZING-STAR, the same with comet. See the article COMET.

BLAZONING, or **BLAZONRY**, in heraldry, the art of decyphering the arms of noble families.

The word originally signified the blowing or winding of a horn, and was introduced into heraldry as a term denoting the description of things borne in arms, with

with their proper significations and intendments, from an antient custom the heralds, who were judges, had of winding an horn at jousts and tournaments, when they explained and recorded the achievements of knights.

In blazoning a coat of arms, you must always begin with the field, and next proceed to the charge; and if there be many things borne in the field, you must first name that which is immediately lying upon the field. Your expressions must be very short and expressive, without any expletives, needless repetitions, or particles. Such terms for the colours must be used, as are agreeable to the station and quality of the bearer. All persons beneath the degree of a noble, must have their coats blazoned by colours and metals; noblemen by precious stones, and kings and princes by planets.

BLEA, in the anatomy of plants, the inner rind or bark. It may be considered as an assemblage of strait fibres ranged vertically and parallel to one another.

While the blea remains any thing soft, and retains somewhat of the nature of bark, it may maintain a feeble vegetation; but when it is grown absolutely hard and woody, it can no longer contribute thereto.

BLEACHING, the art or method of whitening linens, stuffs, silks, hair, &c.

BLEACHING of silk. The silk being raw, is put into a bag of fine linen, and thrown into a vessel of boiling river-water, in which had been dissolved good Genoa or Toulon soap. After boiling for some hours, it is taken out to beat, and then is washed in cold water, wrung slightly, and put a second time into the boiling vessel, filled with cold water, mixed with soap and a little indigo, which gives it a bluish cast. When it is taken out of this second water, they wring it hard, untwist it, and separate the threads; then they suspend it in the air in a kind of stove, where they burn sulphur, the vapour of which mineral gives the last degree of whiteness to the silk.

BLEACHING of woollen stuffs is performed three different ways. 1. With water and soap. 2. With the vapour of sulphur. And, 3. With chalk, indigo, and the vapour of sulphur.

BLEACHING of coarse linens. After they are taken from the loom, they are laid in wooden frames full of cold water, where they are beaten with wooden ham-

mers, and purged from the filth; then they are spread upon the ground to receive the dew for eight days; after which they are put into wooden tubs, with hot lye poured over them. Having been thus lixiviated, they are again purged in a mill, and the former process repeated, till they have acquired their just degree of whiteness.

BLEACHING fine linens. After they are taken from the loom, they are put to soak in clear water, and when they have been well cleansed, are thrown into a bucking-tub filled with cold lye, made of wood-ashes and water. When they are taken out of the lye, they are washed in fair water, spread in a meadow, and frequently watered from little canals, by means of scoops or hollow shovels. After lying a certain time on the ground, they are passed through a fresh lye poured on hot, and made differently, according to the condition of the linens. Being taken out of this second lye, and every thing repeated as before, they are passed through a soft lye, rubbed with black soap, which finishes the whitening of the salvages; and the soap being washed off, they are put to soak in cow's milk without the cream. This perfects their bleaching, gives them the proper softness, and makes them cast a little nap. Being taken out of the milk, they are washed in water for the last time. After all this process, the linen gets its first blue by passing thro' a water, in which a little starch, smalt, and dutch lapis have been steeped. In the last place, the proper stiffness and lustre is given with starch, smalt, and other gums, the quantity and quality of which may be adjusted according to the occasion.

BLEACHING of hair is done by washing it as linen, in a suitable lixivious water, and afterwards spreading it upon the grass. Hair bordering upon the yellow, may likewise be bleached of a white silver colour, with bismuth.

BLEAK, the english name of the fish called by the generality of authors *alburnus* and *albula*, which Arædi makes a species of *cyprinus*, with twenty four rays in the pinna ani. See *CYPRINUS*.

BLECHINGLY, a borough-town of Surry, about twenty miles south of London: west longitude 20°, and north latitude 51° 20'.

BLECHUM, in botany, a genus of plants of the class of the cryptogamia filices, the fructi-

fructifications are disposed in parallel lines on the sides of the leaves.

BLEEDING, or **PHLEBOTOMY**, in surgery. See the article **PHLEBOTOMY**.

Bleeding is said to be highly necessary in the phrenitis, ophthalmia, quinzy, rheumatism, cough, consumption, hectic fits, and, in general, in all inflammatory cases. Some even make no scruple of bleeding a consumptive patient every other day for several weeks together.

BLEEDING at the nose, a particular kind of hæmorrhage. See **HÆMORRHAGE**.

BLEEDING is also used for the drawing out the sap of plants, otherwise called tapping. See the article **TAPPING**.

BLEKING, the most south-easterly province of Sweden, having the Baltic on the south, Smaland on the north, and the province of Schonen on the west.

BLEMISH, a term in hunting, when the hounds or beagles finding where the chase has been, make a proffer to enter, but return.

BLEMYES, or **BLEMYES**, a fabulous people of Ethiopia, said to have had no heads; their eyes, mouth, &c. being situated in their breasts.

BLEND, or **LENDE**, a mineral substance resembling lead-ore, but containing very little of that metal.

BLEND-WATER, called also morehough, a distemper incident to black cattle, comes either from the blood, from the yellows, or from the change of ground.

In order to cure it, take hole armoniac, and as much charcoal dust as will fill an egg-shell, a good quantity of the inner bark of an oak, dried and pounded together to a powder, and give it to the beast in a quart of new milk and a pint of earning.

BLLENHEIM, a village of Swabia in Germany, situated on the west side of the Danube, three miles north-east of Hockstet, and twenty-seven miles north-east of Ulm; east longitude $10^{\circ} 25'$, and north latitude $48^{\circ} 40'$.

BLLENNIUS, in ichthyology, a genus of acanthopterygious fishes, the characters of which are, that there are six bones in the branchiostegæ membrane; that the fore part of the head is very slanting; and that the belly fins have only two bones.

To this genus belong the blennius, properly so called, the gattorugine, aláuda, galericia, gunellus, gales, naustela, and pentadactylus.

BLLENNUS is particularly used for that

species of blennius, which has a furrow between the eyes, with a beautiful spot in its back fin; from whence it has got the name of the butter-fly fish. See plate XXVIII. fig. 6.

BLEYME, an inflammation arising from bruised blood between the horse's sole and the bone of the foot, towards the heel: of these there are three sorts, the first being bred in spoiled wrinkled feet, with narrow heels, are usually seated in the inward or weakest quarter. In this case the hoof must be pared, and the matter let out; then let oil *de merveille* be poured in, and the hoof be charged with a remolade of foot and turpentine.

The second sort, besides the usual symptoms of the first, infects the gristle, and must be extirpated, as in the cure of a quitter bone, giving the horse, every day, moistened bran, with two ounces of liver of antimony, to divert the course of the humours, and purify the blood.

The third sort of bleyemes, is occasioned by small stones and gravel between the shoe and the sole. In this case the foot must be pared, and the matter, if any, let out: if there be no matter, then the bruised sole must be taken out; but if there be matter, the sore must be dressed like the prick of a nail.

BLIGHT, in husbandry, a disease incident to plants, which affects them variously, the whole plant sometimes perishing by it, and sometimes only the leaves and blossoms, which will be scorched and shrivelled up, the rest remaining green and flourishing.

Some have supposed that blights are usually produced by an easterly wind, which brings vast quantities of insects eggs along with it from some distant place, that being lodged upon the surface of the leaves and flowers of fruit trees, cause them to shrivel up and perish.

To cure this distemper they advise the burning of wet litter on the windward side of the plants, that the smoke thereof may be carried to them by the wind, which they suppose will stifle and destroy the insects, and thereby cure the distemper.

Others direct the use of tobacco-dust, or to wash the trees with water wherein tobacco stalks have been infused for twelve hours; which they say will destroy the insects, and recover the plants.

Pepper dust scattered over the blossoms of fruit trees, &c. has been recommended as

very

there are found vast numbers of blind people of all ages, sexes, and conditions, by reason of a species of little flies, which prick the eyes and lips, and enter the nostrils, carrying certain blindness with them, when they light on the eyes.

BLINDNESS, in farriery. When a horse becomes blind, it may be thus discerned : his walk or step is always uncertain and unequal, so that he does not set down his feet boldly, when led in one's hand : but if the same horse be mounted by an expert horseman, and that he be of himself a beast of metal, then the fear of the spurs will make him go resolutely and freely ; so that his blindness can hardly be perceived.

Another mark by which a horse may be known to have lost his sight is, that when he hears any body enter the stable, he will prick up his ears, and move them backwards and forwards. The reason is, that a vigorous horse, having lost his sight, mistrusts every thing, and is continually in alarm, at the least noise he hears.

BLISTER, in medicine, a thin bladder, containing a watery humour, whether occasioned by burns, and the like accidents, or by vesicatories laid on different parts of the body for that purpose. This word is also used improperly for the medicine by whose operation the vesicle or blister is raised, which is more properly called a vesicatory or blistering plaster. See the articles **BURN**, **EPISPASTIC**, and **VESICATORY**.

Cantharides, or spanish flies, applied in the form of a plaster, are chiefly used with this intention. See **CANTHARIS**.

BLITE, *blitum*, in botany, a genus of the *monandria-digynia* class of plants. It has no flower petals : the fruit is a berry-like capsule, of an oval figure, and somewhat compressed ; the seed is single, of a globular figure, compressed, and nearly of the size of the capsule.

Blite, on account of its cooling and emollient qualities, is recommended in dysenteries and spitting of blood.

BLITH, a market-town in Nottinghamshire, about eighteen miles north-west of Newark : west longitude 1° , and north latitude $53^{\circ} 25'$.

BLITUM, *blite*, in botany. See **BLITE**.

BLOATING, among physicians, the same with emphysema. See **EMPHYSEMA**.

BLOCK, a large mass of wood, serving to work or cut things on.

BLOCKS, on ship-board, is the usual name for what we call pulleys at land. They are thick pieces of wood, some with three, four, or five shivers in them, through which all the running ropes run. Blocks, whether single or double, are distinguished and called by the names of the ropes they carry, and the uses they serve for.

Double blocks are used when there is occasion for much strength, because they will purchase with more ease than single blocks, though much slower.

Block and block is a phrase signifying that two blocks meet, in hauling any tackle, or halliard, having such blocks belonging to them.

Fish block is hung in a notch at the end of the davit. It serves to hale up the flooks of the anchor at the ship's prow.

Snatch block is a great block with a shiver in it, and a notch cut thro' one of its cheeks, for the more ready receiving of any rope ; as by this notch the middle part of a rope may be reeved into the block, without passing it endwise. It is commonly fastened with a strap about the main-mast, close to the upper deck, and is chiefly used for the fall of the winding tackle, which is reeved into this block, and then brought to the capstan.

BLOCK, among bowlers, denotes the small bowl used as a mark.

BLOCK, in falconry, the perch upon which they place the hawk. It ought to be covered with cloth.

BLOCK of marble, or stone, a mass just as taken out of the quarry.

BLOCK-Battery, in the military art, denotes a wooden battery on four wheels, moveable from place to place, whereby to fire *en barbe*, or over the parapet ; sometimes also used in galleries and casements, where room is wanted.

BLOCK House, a kind of wooden fort or battery, either mounted on rollers, or on a vessel, and serving either on the water, or in countercarps and counter-approaches. The name is sometimes also given to a brick or stone fort built on a bridge, or the brink of a river, serving not only for its defence, but for the command of the river both above and below ; such was that noted block-house antiently on the bridge of Dresden, since demolished on enlarging the bridge.

BLOCKADE, in the art of war, the blocking up a place, by posting troops at all the avenues leading to it, to keep supplies of men and provisions from getting into

into it; and by these means proposing to starve it out, without making any regular attacks.

To raise a blockade, is to force the troops that keep the place blocked up, from their posts.

BLOIS, a beautiful city of Orleansois, about thirty miles south-west of Orleans; situated on the north shore of the river Loire, in one of the finest countries in France: east long. $1^{\circ} 20'$, and north lat $47^{\circ} 35'$.

BLOMARY, or **BLOOMARY**, in metallurgy, the first forge through which iron passes, after it is melted out of the ore.

BLONIC, a town of Poland, about twenty miles west of Warsaw: east longitude $20^{\circ} 30'$, and north latitude 52° .

BLOOD, *sanguis*, a red liquor circulating through the arteries, veins, and other vessels of animal bodies; and serving for the support of life, and nourishment of all their parts.

Origin of the BLOOD. The blood is the great source from which all the other liquors of the body are derived. It is formed from chyle by various and successive degrees. A few hours after meals, the chyle is found conveyed into the blood, though not assimilated. Hence, when after a liberal meal blood is taken from the vein, besides the serum and the red part, there is a white, sweet, and chylous part found fluctuating in the blood. In a few hours the chyle, conveyed with the blood through the vessels, is separated from the blood by the fabric of the breasts, and affords milk, which is of a different nature both from blood and chyle; for in milk there begins to be formed that tendency to concretion which is already present in the serum of the blood, for it yields cheese. But this tendency to concretion is never found in the chyle. Hence we may artificially imitate the preparation of chyle in emulsions, but never the nature of milk.

When a sound woman for twelve hours totally abstains from meat and drink, her milk begins to be saline and yellowish. If she abstains still longer, nothing is found in the blood taken from her veins, but what (like the white of an egg) is by means of the fire concreted, which never happens in the chyle. See the articles **CHYLE** and **CHYLIFICATION**.

Hence we may conclude that the bodies of sound persons are the formers and producers of their own blood, in the same manner as any plant, by its peculiar fabric, prepares its sap from the juices of

the fertile earth and the genial influences of the circumambient air.

But in the human body the formation of blood depends principally upon the efficacy of the circulation, by which the vessels act upon their contained fluids: Hence in the most robust persons the blood is reddest, or rather almost black, in consequence of its saturated red colour, and is concreted almost the very moment it is left in a state of rest. And in acute diseases, when the circulation is increased, all the parts are intensely red, and the serum of the blood is converted into a scissile mass. But in weak persons in whom the efficacy of the circulation is far less, all the parts are pale and languid, whilst the blood is thin and hardly capable of concretion. But when in such persons, with due exercise and proper remedies, the circulation is augmented, the red colour and due cohesion of the blood return.

Analysis of the BLOOD. The most obvious composition of blood is of a thin watry liquor, called serum; and a thick reddish lump, called crassamentum. This last, viewed by the microscope, is seen to consist of red globules, of a certain determined magnitude, the same in different parts of the same animal, and even in different animals of whatever size; being equally big in an ox, a sheep, or rabbit: and the plano-oval particles in the blood of fowls and fishes, corresponding to the globules of terrestrial animals, are the same in the greatest whales, as in an eel or a frog; the same in an eagle as in a sparrow. See the article **SERUM**.

These are easily perceived by any body; but the sharp-sighted Lewenhoeck went farther. He discovered those globules to be made up of lesser ones, which were likewise composed of others still smaller; and so on to the fifth, sixth, &c. orders. Hence it appears, how little reason certain physiologists had to suppose these globules made up of viscid bululæ, inclosing little spherules of air.

As to the fibres, &c., which many have described as essential parts of the blood, there are no vestiges of them to be found, at least in its natural state.

The ancients did not pretend to determine the proportions of the constituent parts of the blood; but, from the experiments of modern chemists, they have been found to be nearly as in the following table, where the blood is reckoned unity, and supposed to consist of 4873 grains.

N^o. of grains. proportion to
the whole.

| | | | | |
|-----------|------|---|---|---------------|
| Water — — | 4068 | — | — | $\frac{5}{8}$ |
| Oil — — | 333 | — | — | $\frac{1}{3}$ |
| Salt — — | 190 | — | — | $\frac{2}{3}$ |
| Earth — — | 65 | — | — | $\frac{7}{8}$ |
| Air — — | 171 | — | — | $\frac{1}{8}$ |

Thus we see how greatly the watery or phlegmatic part of the blood exceeds the other principles. However, it is proper to observe, that there is a remarkable difference between the blood as it circulates in the vessels of animals, and when exposed to the cold air: we know that all bodies whatsoever are condensed by cold, and expanded again by heat; so that we may safely affirm the cold blood, or as it is commonly examined, to be specifically heavier, than that circulating in vessels of living animals.

Circulation of the BLOOD. See the article *CIRCULATION of the Blood.*

Velocity or momentum of the circulating BLOOD. See *Force of the HEART.*

Heat of the BLOOD. See the article *HEAT.*

Quantity of the BLOOD. Authors are not agreed in regard to the quantity of blood contained in the human body; some making it only 10 pounds, whilst others make it to be 20, 60, or even 100 pounds: but then these last comprehend the juices of the lymphatic vessels under the term blood. As to the quantity of current blood in a horse, the ingenious Dr. Hales found it to be, at a low computation, 1105 cubic inches, or 42.2 pounds.

BLOOD, in medicine, claims the most attentive regard of physicians. An excess of its quantity produces a plethora, lethargy, &c. Fevers are the consequence of its too rapid motion, and obstructions of its viscosity and languor.

The too great heat and viscosity of the blood, are its prevailing disorders in a country like this, where people live high, and drink hot inflammable liquors. Besides temperance, and using water as beverage, the milder preparations of mercury, contribute greatly to cool and dilute the blood: such are ethiops and cinabar, if given in moderate doses, so as not to affect the stomach, or excite a salivation.

Thickness of the blood is another distemperature, proceeding from a plethora, and diminution of its motion; from whence arise obstructions, stagnations, hypochondriac and hyttric affections, &c.

The incubus, or night-mare, is also owing to the same cause.

Spitting of BLOOD is cured by copious bleeding every third day, to the fourth time. Gentle purging is likewise recommended; and, for appeasing the commotion of the blood, spirit of vitriol, but more especially the tincture of roses made therewith. A milk diet is also preferable to any other; and after the cure is completed, it will be necessary, by way of prevention, to bleed once in six months for several years together.

For the stanching of BLOOD, see *STYPTIC.*
Transfusion of BLOOD. See the article *TRANSFUSION.*

BLOOD, in farriery, a distemper in the backs of cattle, which will make a beast go as if he drew his head aside, or after him. In order to cure it, you should slit the length of two points under his tail, and so let him bleed well; but if he bleeds too much, knit his tail next the body, and then bind salt and nettles bruised unto it.

Ebullition of the BLOOD, a disease in horses which proceeds from want of exercise, and gives rise to outward swellings, frequently mistaken for the farcin.

BLOOD running itch happens to a horse by the blood's being over heated by hard riding or other labour. As the blood gets between the skin and the flesh, it makes a horse rub and bite himself, and if neglected, will turn to a grievous mange.

BLOOD of Christ, the name of a military order instituted at Mantua in 1608. The number of knights was restricted to twenty, besides the grand master. Their device was *Domine probasti me*, or, *nihil, hoc, triste, recepto.*

BLOOD of Christ is also the name of a congregation of nuns at Paris.

Dragon's BLOOD. See the article *DRAGON.*

Salamander's BLOOD. See *SALAMANDER.*

BLOOD-HOUND. See the article *HOUND.*

BLOOD-LETTING. See *BLEEDING.*

BLOOD-SHOTTEN. See *OPHTHALMIA.*

BLOOD-SPAVIN. See the article *SPAVIN.*

BLOOD-SNAKE. See *HÆMORRHUS.*

BLOOD-STONE. See *HÆMATITES.*

BLOOD-WITE, a mulct or fine for shedding of blood.

BLOOD-WORT, in botany. See the article *SANGUINARIA.*

BLOODY, something belonging to, or abounding with blood.

BLOODY-FLUX. See the articles *FLUX* and *DYSENTERY.*

BLOODY HAND, is when a trespasser is apprehended

prehended in a forest with his hands or other parts bloody; which is a circumstance of his having killed the deer, tho' he be not found chasing or hunting them.

BLOODY-HEEL-COCK. See **HEELER**.

BLOODY-RAIN. See the article **RAIN**.

BLOODY URINE. See the article **URINE**.

BLOOM, a mass of iron after having undergone the first hammering, called *blo-mary*. See the article **BLOMARY**.

BLOSSOM denotes the flowers of plants, but more especially of fruit-trees. See the articles **BOTANY** and **FLOWER**.

BLOSSOM, or PEACH-COLOURED, in the manege, a term applied to a horse that has his hair white, but intermixed all over with sorrel and bay hairs. Such horses are so insensible, and hard both in the mouth and the flanks, that they are scarce valued; besides, they are apt to turn blind.

BLOTTING-BOOK, the same with waste-book. See the article **BOOK**.

BLOTTING-PAPER. See **PAPER**.

BLOW, in law, any kind of stroke, whether given with the hand or a weapon. See the article **BATTERY**.

BLOW, in medicine. See the articles **WOUND** and **CONTUSION**.

BLOW-PIPE, or BLOWING-PIPE, a hollow tube, used by several artificers; as enamellers, glass-makers, &c.

BLOWING, in a general sense, denotes an agitation of the air, whether performed with a pair of bellows, the mouth, a tube, or the like.

BLOWING of glass, one of the methods of forming the divers kinds of works, in the glass manufacture.

It is performed by dipping the point of an iron blowing-pipe in the melted glass, and blowing through it with the mouth, according to the circumstances of the glass to be blown.

BLOWING of tin denotes the melting its ore, after being first burnt to destroy the mundic.

BLOWING, among gardeners, the same with the blossoming of plants, or putting forth their flower-leaves.

BLUBBER denotes the fat of whales and other large sea animals, whereof is made train oil. See the article **OIL**.

Sea-BLUBBER, a name used for the *urtica marina*. See the article **URTICA**.

BLUE, otherwise called **AZURE**, is one of the primitive colours of the rays of light.

Painters BLUE is made different, according to the different kinds of painting.

In limning, fresco, and miniature, they use indifferently ultramarine, blue ashes, and smalt: these are their natural blues, excepting the last, which is partly natural, and partly artificial.

In oil and miniature, they also use indigo prepared; as also a fictitious ultramarine. See the articles **ULTRAMARINE** and **INDIGO**.

Enamellers and painters upon glass have also blues proper to themselves, each preparing them after their own manner.

Turnsole BLUE is used in painting on wood, and is made of the seed of that plant: the way of preparing it is, to boil four ounces of turnsole in a pint and half of water, in which lime has been slacked.

Flanders BLUE is a colour bordering on green, and seldom used but in land-skips.

To write on paper or parchment with BLUE ink. Grind blue with honey, then temper it with glair of eggs, or gum made of ising-glass.

BLUEING of metals is performed by heating them in the fire, till they assume a blue colour; particularly practised by gilders, who blue their metals before they apply the gold and silver leaf.

To dye skins BLUE. Boil elder berries or dwarf elder, then lineal and wash the skins therewith, and wring them out; then boil the berries, as before, in a solution of alum-water, and wet the skins in the same manner once or twice; dry them, and they will be very blue.

Dyers BLUE is one of their simple or mother colours, used in the composition of others. It is made of woad, indigo, and a pastel brought from Normandy. Some dyers heighten their blue, by adding brasil and other woods.

A BLUE for painting or staining of glass. Take fine white sand twelve ounces, zaffer and minium of each three ounces; reduce them to a fine powder in a bell-metal mortar, then putting the powder into a very strong crucible, cover it and lute it well, and, being dry, calcine it over a quick fire for an hour; take out the matter and pound it, then to 16 ounces of this powder, add 14 of nitre powder; mix them well together, and put them into the crucible again; cover and lute it, and calcine for two hours on a very strong fire.

Prussian BLUE. This blue is next to ultramarine for beauty, if it be used in oil: this colour does not grind well in water. See the article **PRUSSIAN BLUE**.

and the air of a pondus or spring, that sets the machine a-going.

BODY is used by anatomists to denote several particular parts of the animal fabric, as the callous body of the brain, &c.

The division of **BODY**, among physicians, is into solids and fluids, also into venters or cavities, the head, thorax, and lower venter; the rest of the body they call members or extremities.

The peripatetics maintained, that the soul was the form of the human body; but so far is animal life from depending on the soul, because of its ceasing when the soul is separated, that, on the contrary, the continuance of the soul depends intirely on the state of the body; the former never quitting the latter, till its œconomy or order is interrupted.

The cartesians maintain the soul and body to be too disproportionate for the ideas of the soul to be caused by the motions of the body, and *vice versa*. Thus their reciprocal motions, not being able to be the direct cause of the one and the other, are only deemed the occasion, or occasional cause. God, on occasion of the motion of a body, impresses an idea of sensation on the soul; and again, on occasion of an idea of the soul, communicates a motion to the body: consequently, according to them, God is the only agent of the whole intercourse between soul and body.

Reticular BODY. See **RETICULAR**.

BODY, in geometry, is otherwise called a solid. See the article **SOLID**.

The regular bodies, or those which have all their angles and sides similar and equal, are five, *viz.* the tetrahedron, octahedron, dodecahedron, icosaedron, and the cube. See **TETRAHEDRON**, &c.

BODY, in law. A man is said to be bound or held in body and goods; that is, he is liable to remain in prison, in default of payment.

In France, all restraints of the body for civil debts are null after four months, unless the sum exceeds two hundred livres.

A woman, though in other respects she cannot engage her person but to her husband, may be taken by the body, when she carries on a separate trade.

BODY, among painters, as to bear a body, a term signifying that the colours are of such a nature, as to be capable of being ground so fine, and mixing with the oil so intirely, as to seem only a very thick oil of the same colour.

But such colours as are said not to bear a body, will readily part with the oil when laid on the work; so that when the colour shall be laid on a piece of work, there will be a separation; the colour in some parts, and the oil in others, except they are tempered extraordinary thick.

BODY, in the manege. A horse is chiefly said to have a good body, when he is full in the flank. If the last of the short ribs be at a considerable distance from the haunch bone, although such horses may, for a time, have pretty good bodies, yet, if they are much laboured, they will lose them; and these are properly the horses that have no flank. It is also a general rule, that a man should not buy a light-bodied horse, and one that is fiery, because he will soon destroy himself.

BODY, in the art of war, a number of forces, horse and foot, united and marching under one commander.

Main BODY of an army, the troops encamped in the center between the two wings, and generally infantry: the other two bodies are the vanguard and the rear-guard; these being the three into which an army, ranged in form of battle, is divided.

BODY of reserve. See **Body of RESERVE**.

BODY, in matters of literature, denotes much the same with system, being a collection of every thing belonging to a particular science or art, disposed in proper order: thus, we say, a body of divinity, law, physic, &c.

BOEDROMIA, in grecian antiquity, a festival celebrated yearly by the Athenians in the month boedromion; for the ceremonies of which, see Potter's arch. græc. b. ii. c. 20.

BOEDROMION, in chronology, the third month of the athenian year, answering to the latter part of our August and beginning of September.

BOERHAAVIA, in botany, a genus of the monandria-monogynia class of plants, whose flower consists of a single campanulated petal, erect, and of a quinqueangular form, divided into five segments, that are short and emarginated. The fruit is a turbinate capsule, furrowed on the surface, and forming only one cell, within which there is lodged a single seed.

BOESCHOT, a town of the austrian Netherlands, situated in Brabant, about twelve miles north-east of Malines, in 4° 40' east longitude, and 51° 5' north latitude.

BOG properly signifies a quagmire, covered indeed with grafs, but not folid enough to fupport the weight of the body; in which fenfe, it differs only from marfhes or fens, as a part from the whole: fome even reftain the term bog to quagmires pent up between two hills; whereas fens lie in champaign and low countries, where the defcent is very fmall.

Bogs are frequent in Ireland, where they diftinguifh between a turf bog, called alfo red bog, out of which turf or peat is dug; and a quaking bog, which will fink under a man in the place where he ftands to a confiderable depth; underneath is frequently clear water, into which a perfon may flip up to the middle upon breaking the furface.

Every red bog is encompassed with a deep marfhy floughy ground, called the bounds of the bog. — The inconveniencies of bogs are, that a confiderable part of the kingdom is rendered ufelefs by them; they alfo keep people at a diftance from each other, and thus hinder bufinefs from going forward. Bogs have alfo their ufes; moft of the people in Ireland have their firing from them; the wood being impolitically deftroyed, the Irish could hardly do without fome bogs.

The natives had antiently another advantage from bogs; — that by means of them they were preferred from the conqueft of the Englifh: and it feems to be from the remembrance thereof, that they ftill chufe to build near bogs.

As to the *origin and formation* of BOGS, it is to be obferved, that there are few places in the northern world, but have formerly been as famous for them as Ireland now is; every wild ill-inhabited country has them; the Loca Paluftria, or Paludes, to which the antient Gauls, Germans, and Britons retired, when beaten, appear to be no other than what we now call bogs. The like may ftill be found in the barren parts of Italy, as Liguria. The true caufe of bogs feems to be the want of induftry; at leaft it is certain induftry may remove, and much more prevent them; therefore it is no wonder if a country famous for lazinefs fhould abound with them; it is not impoffible to drain bogs, fo as to render them fit for pafture or arable, the fame having been performed in England, France, &c. People commonly diftinguifh between bogs that have no fall to carry away the water, and thofe which have; the laft are reputed drainable, and the former not: but Mr. King affures us,

he never knew a bog but had a fufficient fall to drain it; nor does he believe there is any in reality but always have: the great objection againft draining, is the charge which, it is commonly reckoned, would amount to much more than would purchafe an equal quantity of good ground; for an acre of this laft, in moft parts of Ireland, is not worth more than four fhillings *per ann.* and fourteen or fifteen years purchafe; fo that three pounds will buy an acre of good ground; and it is very doubtful with moft, whether that fum will reduce a bog. This reasoning paffes current, and this is the great impediment of this work. To this it is answered that quaking bogs, though land be never fo cheap, never fail to be worth draining; one trench will drain many acres, and, when dry, it is the beft meadow or grazing ground. Again what is called the bounds of a red bog, never fails to be worth draining, being done by one deep trench drawn round the bog; by this cattle are kept out of the bog, and the bounds turned into meadow.

Add, that even red bogs might be made fit for grazing, at a much cheaper rate than has hitherto been done, by a proper conduft in digging of trenches, particularly defcribed by Mr. King.

Though fome bogs are of a great depth, yet no more is required than to drain them to a certain level, which may be done feveral ways; 1ft, by making a channel to carry off the water; 2dly, by throwing in plenty of dry earth, when they are almoft dried up by the heat of the fun; 3dly, by fetting their fufaces on fire; 4thly, by turning the water that feeds them another way.

To drain BOGGY lands, a good method is, to make trenches of a fufficient depth to carry off the moifture; and if thefe are partly filled up with rough ftones, and then covered with thorn-bufhes and ftraw to keep the earth from filling up their interftices, a ftratum of good earth and turf may be laid over all; the cavities among the ftones will give paffage to the water, and the turf will grow at top, as if nothing had been done. See FEN.

BOG, in geography, a river of Poland, which, running fouth eaft through the province of Podolia and Buziac Tartary, falls into the Euxine fea between Ocza-kow and the mouth of the Borifthenes.

BOG, or BOG OF GICHT, a fmall town of Scotland, near the mouth of the river

Spey, situated in $2^{\circ} 23'$ west longitude, and $57^{\circ} 40'$ north latitude.

BOGHO, or **BUEIL**, a town in the county of Nice, in Piedmont, situated on the frontiers of France, about twenty-five miles north-west of Nice, in $6^{\circ} 45'$ east longit, and $44^{\circ} 12'$ north latit.

BOGOMILI, or **BOGARMITÆ**, in church-history, a sect of heretics, which sprung up about the year 1179. They thought that but seven books of the scripture are to be received, that the use of churches, of the sacrament of the Lord's supper, and all prayer, except the Lord's prayer, ought to be abolished; that the baptism of catholics is imperfect, that the persons of the trinity are unequal, and that they oftentimes made themselves visible to those of their sect. They said, that devils dwelt in the churches, and that satan had resided in the temple of Solomon from the destruction of Jerusalem to their own time.

BOGOTO, the capital of New Granada, in Terra Firma, situated in 74° west longitude, and 4° north latitude.

BOHEA, in commerce, one of the best kinds of tea that come from China. There are three sorts of it: the first is bought at Canton for 80 tals per picë; the second for 45; and the third for 25. See the article **TEA**.

BOHEMIA, a kingdom subject to the house of Austria, bounded by Saxony on the north, by Poland and Hungary on the east, by Austria on the south, and by Bavaria and part of Saxony on the west. It lies between 12° and 17° east long. and 48° and 52° north lat.

BOHOL, one of the Philippine-islands, in Asia: east long. 122° , and north lat. 10° .

BOJANO, a city of Molise, in the kingdom of Naples, about fifteen miles north of Benevento; east longitude $15^{\circ} 20'$, and north latitude $41^{\circ} 20'$.

BOIGUACU, the largest of all serpents, being from twenty-four to forty feet long, and thick in proportion. It is found in the East and West-Indies, where the Europeans, as well as the natives, are extremely fond of it as food. See plate XXIX. fig. 4.

The boiguacu is a very terrible animal, lying in ambush in thickets or on branches of trees; from whence it darts itself on its prey. Authors of credit tell us, that it will swallow a goat, a bear, and even a stag, horns and all.

BOIL, or **FURUNCLE**, in surgery. See the article **FURUNCLE**.

BOILING, or **EBULLITION**, in physics, the agitation of a fluid body, arising from the application of fire, &c.

The phenomena of boiling may be thus accounted for: the minute particles of the fuel, being detached from each other, and impelled *in orbem* with a great velocity, *i. e.* being converted into fire, pass the pores of the containing vessel, and mix with the fluid. By the resistance they here meet, their motion is destroyed; that is, they communicate it wholly to the quiescent water; hence arises, at first, a small intestine motion in the water, and from the continued action of the first cause, the effect is increased, and the motion of the water continually accelerated; so that, by degrees, it becomes sensibly agitated. But now the particles of fire, sticking on those in the lowest surface of the water, will not only give them an impulse upwards, contrary to the laws of equilibrium, but will likewise render them specifically lighter than before, so as to determine them to ascend according to the laws of equilibrium; and this, either by inflating them into little vesicles, by the attraction of the particles of water around them, or by breaking and separating the little spherules of water, and so increasing the ratio of their surface to their solid content. There will be, therefore, a constant flux of water from the bottom to the top of the vessel, and consequently a reciprocal flux from the top to the bottom; that is, the upper and under water will change places; and hence we have the reason of that phenomenon of the water being hot at top, sooner than at bottom.

Again, an intense heat will diminish the specific gravity of water, so as not only to make it mount in water, but also in air; whence arise the phenomena of vapour and smoke, though the air, inclosed in the interstices of the water, must be allowed a good share in this appearance; for that air, being dilated and its spring strengthened by the action of the fire, breaks its prison, and ascends through the water into the air, carrying with it of the contiguous spherules of water, so many as shall hang in its villi, or as can adhere immediately to it.

The particles of the air, in the several interstices of the fluid mass thus expanded and moving upwards, will meet and coalesce in their passage; by which means great quantities of the water will be heaved up and let down alternately,

Fig. 1. BOAR.



Fig. 2. BONASUS.



Fig. 3. BOOPS.

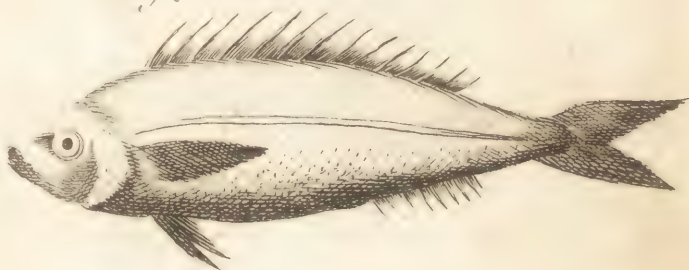


Fig. 4. BOIGUACU

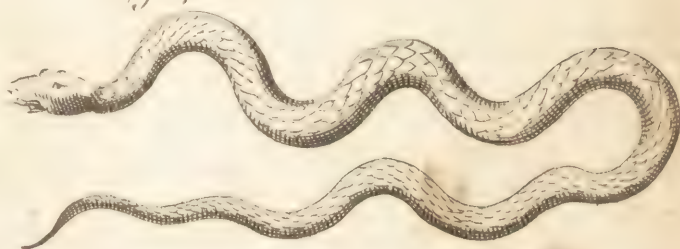


Fig. 6. BORRAGO



Fig. 5. BORDURE.





as the air rises up, and again passes from the water; for the air, after coalition, though it may buoy up a great heap of water by its elasticity, while in the water, yet cannot carry it up with itself into the atmosphere; since, when once got free from the upper surface of the water in the vessel, it will unbend itself in the atmosphere, and so its spring and force become just equal to that of the common unheated air; and hence we see the reason of the principal phenomenon of boiling, *viz.* the fluctuating of the surface of the water.

The ingenious Mr. Amontons has shewn, that water heated to a degree of boiling, will not conceive any further heat, now much soever the fire be increased. Yet this excellent discovery may receive a considerable improvement from what Mr. Fahrenheit has observed, *viz.* that the heat of the same boiling water is always regularly greater, by how much the weight of the atmosphere is greater which presses upon its surface: and again, that the same heat of the boiling water diminishes, as the weight of the incumbent atmosphere grows less. Hence in marking the degree of heat in boiling water, it will be necessary to note the weight of the atmosphere at the same time by the barometer; otherwise no certain measure will be expressed. In the mean time, however, it must be allowed, that so long as the pressure of the atmosphere continues the same, boiling water will not grow hotter by any increase of fire whatever; and with this limitation, Mr. Amontons' rule will for ever hold true. When the difference of the weight of the atmosphere is three ounces, the greatest degree of heat in boiling water, under these different weights, will be 8 or 9 degrees. From whence, the author evidently deduces, that by how much the particles of water are more compressed to each other upon increasing the incumbent weight, by so much the more fire is required to make them recede from each other, wherein ebullition consists. Hence also he concluded, that a thermometer applied in boiling water, would mark by the degrees of heat it expresses, the gravity of the atmosphere at that time.

Water, in the receiver of an air-pump, when exhausted, will boil without any great heat. The receiver should, for this experiment, be one part full of water, and three empty: in this case, the flame of a candle being placed under the vessel,

the water will boil violently, while the glass itself is scarce warm; and when the water has been thus kept boiling a quarter of an hour, the glass will scarce be any thing the hotter for it. When the candle is taken away, the water will still continue a great while boiling, and when it ceases first, will renew itself again from time to time to a very great ebullition. All the bubbles that rise out of the water on this occasion, do not raise the mercury in a gage to any sensible height.

Spirit of wine, in the same manner, boils much sooner in vacuo than the water, and in this state will raise the mercury in the gage to an inch higher than its former standard. If the receiver containing it in this boiling state, be plunged into cold water, the liquor, instead of becoming calm, boils more strongly than before. It might be supposed, that this phenomenon was owing to a peristalsis; but we have more ground to say it came from hence, that the vapours of the spirit were more condensed, and so made the receiver more empty, which is sufficient to make the spirit of wine boil, though it were not hot, as liquors usually do when put into the engine, and the air exhausted. In all these, and many other cases, boiling is induced without that heat, which is supposed a necessary concomitant of it.

BOIS DE SOIGNIES, the forest of Soignies, in the austrian Netherlands, and province of Brabant, about three miles south-east of Brussels.

BOISLEDUC, called by the Dutch Hertogenbosch, a large fortified town of dutch Brabant, situated on the river Bommel, about twenty-three miles north-east of Breda; east longitude $5^{\circ} 20'$, and north latitude $51^{\circ} 45'$.

BOLE, a genus of earth, moderately coherent, ponderous, soft, and not stiff or viscid, but in some degree ductile while moist; and composed of fine particles, smooth to the touch, easily breaking between the fingers, readily diffusible in water, and freely and easily subsiding from it.

Boles are either white, yellow, red, brown, or green.

I. Of white boles we have the following species. 1. The pure white bole armenic, esteemed a sudorific and astringent, but unknown to our shops. 2. A white friable bole, dug near Frankfort, and counted sudorific and astringent, and accordingly prescribed in spittings of blood, and ulcers of the lungs. 3. A hard, hea-

vy white bole, called *terra nocerana*, in great esteem in malignant fevers, and against the bites of venemous animals. 4. The white lemnian earth, a light, white bole, esteemed good in dysenteries, hæmorrhages, and malignant fevers. 5. The greyish-white bole, called earth of Goltberg, and used as an astringent, cordial, and sudorific. 6. The yellowish white bole, or tuscan earth, prescribed as a sudorific, and in diarrhoeas. 7. A white, soft, heavy bole, called earth of Malta, prescribed against venemous bites. 8. A whitish alkaline bole, called eretrian earth, and said to be a noble astringent and sudorific. 9. A hard, whitish, alkaline bole, found near Bengal, and used with success in fluxes and fevers.

II. Of the yellow boles, these are the species. 1. The yellow bole armenic, said to be an excellent astringent, sudorific, and alexipharmic. 2. The bole of Blois, of a pure and light yellow colour, and a powerful astringent. 3. The friable, yellow bole of Tokay, esteemed a good astringent. 4. The yellow lemnian earth, accounted a good sudorific, astringent, and vulnerary. 5. The friable gold-coloured bole, brought from Westphalia, frequently used in cordial and astringent electuaries. 6. The brownish-yellow bole, called silesian earth, a good astringent. 7. The light, friable, reddish-yellow bole, called livonian earth, esteemed a better astringent than most of the other boles. 8. The firm and heavy reddish-yellow bole, called bohemian bole, esteemed an excellent medicine in malignant fevers, and fluxes of all kinds.

III. Of the red boles, authors enumerate the following species. 1. A hard red bole, or bole armenic of Avicenna; a good astringent, but seldom met with genuine. 2. A heavy, compact, pale-red bole, dug in many parts of France. 3. A light friable, dull-red bole, called sealed earth of Striga. 4. A heavy, friable, red bole, called livonian earth; a powerful astringent. 5. A heavy, friable, pale-red bole, called sealed earth of Tuscany; prescribed in fevers, and fluxes of all kinds, with good success. 6. A friable, weighty, fine red bole, found in Portugal, and esteemed a good medicine against poisons, and in malignant fevers. 7. The red lemnian earth, which is hard and weighty. 8. The friable greyish-red bole, called Turkey earth, used as

a sudorific and astringent. 9. A hard pale-red bole, found in many parts of America.

IV. Of the brown boles, there are only three species. 1. A pure, pale-brown bole, said to be a good astringent. 2. The dense, heavy, pale-brown bole, found in many parts of Germany, and used as a sudorific and astringent. 3. The light, friable, brown-bole, found in many parts of England, thought to be a good astringent.

V. Of the green boles, there is only one known species, found in the perpendicular strata of stone in many parts of England, and thought improper to be used internally in medicine, on account of the copper it contains.

BOLETUS, in botany, a genus of the cryptogamia fungi class of plants, growing horizontally, and porous underneath.

BOLINGBROOK, or BULLINGBROKE, a market-town of Lincolnshire, about twenty-five miles east of Lincoln: east longitude 15° , and north lat. $53^{\circ} 15'$.

BOLLARDS, large posts set into the ground, on each side of a dock: on docking or undocking ships, large blocks are lashed to them; and thro' these blocks are reeved the transporting hawfers to be brought to the capstons.

BOLLITO, a name by which the Italians call a sea-green colour in artificial crystal. To prepare this colour, you must have in the furnace a pot filled with forty pounds of good crystal, first carefully skimmed, boiled, and purified, without any manganese: then you must have twelve ounces of the powder of small leaves of copper, thrice calcined, half an ounce of zaffer in powder: mix them together, and put them at four times into the pot, that they may the better mix with the glass, stirring them well each time of putting in the powder, for fear that it should swell too much and run over.

BOLOGNA, a city of Italy, fifty miles north of Florence. It is about five miles in circumference, and is remarkable for its magnificent churches and monasteries, as well as for its university, which is one of the most considerable in Europe: east long. $11^{\circ} 40'$, and north lat. $44^{\circ} 30'$.

BOLOGNE, or BOULOGNE. See the article BOULOGNE.

BOLSENNNA, a town of the pope's territories in Italy, about forty-five miles north

north of Rome, at the north end of a lake to which it gives name: east long.

13°, and north latitude 42° 40'.

BOLSLAW, a town of Bohemia, situated on the river Sizerá, about thirty miles north-east of Prague; east longitude 14° 45', and north latitude 50° 24'.

BOLSTERS of a saddle, those parts of a great saddle which are raised upon the bows, both before and behind, to hold the rider's thigh, and keep him in a right posture.

BOLSWAERT, a town of west Friesland, in the united provinces, about eighteen miles south-west of Lewarden: east longitude 5° 20', and north latitude 53° 10'.

BOLT, among builders, an iron fastening fixed to doors and windows. They are generally distinguished into three kinds, *viz.* plate, round, and spring bolts.

Bolts in gunnery are of several sorts, as, 1. Transum bolts, that go between the cheeks of a gun-carriage, to strengthen the transums. 2. Prise bolts, the large knobs of iron on the cheeks of a carriage, which keep the hand-spike from sliding when it is poizing up the breech of a piece. 3. Traverse bolts, the two short bolts that being put one in each end of a mortar carriage, serve to traverse her. 4. Bracket bolts, the bolts that go through the cheeks of a mortar, and by the help of quoins keep her fixed at the given elevation. And, 5. Bed bolts, the four bolts that fasten the brackets of a mortar to the bed.

Bolts in a ship are iron pins of which there are several sorts, according to their different make and uses. Such are, Drive bolts, used to drive out others. Ray bolts, with jags or barbs on each side, to keep them from flying out of their holes. Clench bolts, which are clenched with rivetting hammers. Forelock bolts, which have at the end a forelock of iron driven in to keep them from starting back. Set bolts, used for forcing the planks, and bringing them close together. Fend or fender bolts, made with long and thick heads, and struck into the uttermost bends of the ship, to save her sides from bruises. And ring bolts, used for bringing to of the planks, and those parts whereto are fastened the bœches and tackles of the guns.

BOLTHEAD, among chemists, the same with cucurbit. See CUCURBIT.

BOLTING, a term formerly used in our inns of court, for the private arguing of

causes. An antient and two barristers sat as judges, and three students bringing each a case, out of which the judges chose one to be argued, the students first began to argue it, and after them the barristers. It was inferior to mootings. See the article MOOR.

BOLTON, a market-town of Lancashire, about twenty-seven miles north-east of Liverpool; west longitude 2° 20', and north latitude 53° 35'.

BOLUS, an extemporaneous form of a medicine, soft, coherent, a little thicker than honey, and the quantity of which is a little morsel or mouthful; for which reason it is by some called buccella. Whatever is fit for internal use, either by itself, or when mixed with other substances, provided it is capable of the above-mentioned consistence, is a proper material for the composition of a bolus. Such are soft substances more or less thick, as conserves, electuaries, robs, pulps, extracts, syrups and liquid substances, as oils, spirits, essences, elixirs, &c. The dose of a bolus may be extended from one dram to one dram and a half, or two drams.

BOMAL, a town of Luxemburg, in the austrian Netherlands, situated on the river Ourt, about twenty miles south of Liege; east longitude 5° 30', north lat. 50° 20'.

BOMB, in military affairs, a large shell of cast iron, having a great vent to receive the fusee, which is made of wood. The shell being filled with gunpowder, the fusee is driven into the vent or aperture, within an inch of the head, and fastened with a cement made of quick-lime, ashes, brick-dust, and steel-filings, worked together in a glutinous water: or of four parts of pitch, two of colophony, one of turpentine, and one of wax. This tube is filled with a combustible matter, made of two ounces of nitre, one of sulphur, and three of gunpowder dust, well rammed. To preserve the fusee, they pitch it over, but uncase it when they put the bomb into the mortar, and cover it with gunpowder dust; which having taken fire by the flash of the powder in the chamber of the mortar, burns all the time the bomb is in the air; and, the composition in the fusee being spent, it fires the powder in the bomb, which bursts with great force, blowing up whatever is about it. The great height the bomb goes in the air, and the force with which it falls, makes it go deep into the earth.

For

For the theory of throwing bombs, see the article **PROJECTILES**.

BOMB-CHEST, a kind of chest filled usually with bombs, sometimes only with gunpowder, placed under ground to tear it and blow it up into the air, with those who stand on it. It was set on fire by means of a faucisse fastened at one end, but is now much disused.

BOMBARD, a piece of ordnance antiently in use, exceedingly short and thick, and with a very large mouth. There have been bombards which have thrown a ball of 300 pound weight. They made use of cranes to load them.

The Bombard is by some called basilisk, and by the Dutch, donderbus. See the article **BASILISK**.

BOMBARDIER, a person employed about a mortar. His business is to drive the fuse, fix the shell, load and fire the mortar, and to work with the fire-workers on all sorts of fire-works, whether for war or recreation.

BOMBARDMENT, the havock committed in throwing bombs into a town or fortress.

BOMBARDO, a musical instrument of the wind kind, much the same as the bassoon, and used as a base to the hautboy.

BOMBASINE, a name given to two sorts of stuffs, the one of silk, and the other crossed, of cotton.

Bombasine of silk pays duty on importation as other foreign silks. See **SILK**. That of cotton pays each piece, not exceeding 15 yards, if narrow, 1 l. 3 s. 10 d. but if broad, 1 l. 6 s. 11 d.

BOMBAST, in matters of literature, high swelling language made up of hard words, with little meaning, and less sense.

BOMBAX, in botany, a genus of the polyandria monogynia class of plants, the calyx of which is a large coloured permanent perianthium, consisting of four or five leaves: the corolla consists of a great number of petals (sometimes fifteen) less than the cup; the fruit is a hard oval, fleshy berry, containing many cells (from ten to fifteen) and full of pulp; the seeds are numerous and roundish.

BOMBAY, an island on the west coast of the higher peninsula of India, situated in 72° 20' east long. and 18° 30' north lat. It is about seven miles long, and twenty in circumference; and is the property of our East India company.

BOMB-KETCH, a small vessel built and

strengthened with large beams for the use of mortars at sea.

BOMBUS, in medicine, a resounding and ringing noise in the ear, which is accounted by Hippocrates a mortal symptom in acute diseases.

BOMBYX, the silk-worm, in zoology. See the article **SILK**.

Bombyx was also used, by antient naturalists, indifferently for silk or cotton.

BOMENE, a port town of Zeland, in the united provinces, situated on the northern shore of the island Schonen, opposite to the island of Goree; east longitude 4°, and north latitude 51° 50'.

BOMMEL, a town of dutch Guelderland, situated on the northern shore of the river Waal, about four miles north-east of Nimeguen: east longitude 5° 50', and north latitude 52°.

BOMONICI, in grecian antiquity, young men of Lacedæmon, who contended at the sacrifices of Diana which of them was able to endure most lashes; being scourged before the altar of this goddess.

BON, in geography, a town of the electorate of Cologne, in Germany, situated on the western shore of the river Rhine, about twelve miles south of Cologne; east longitude 7°, and north latitude 50° 35'. It is a small but well fortified town, and has a fine palace, which the elector of Cologne makes his usual residence.

BONA, in geography, a port town of the kingdom of Algiers, in Africa, about two hundred miles east of the city of Algiers; east longitude 8°, north lat. 36°. There is also a cape called Bona, on the same coast to the eastward, almost opposite to Sicily.

BONA-FIDES, or **BONA-FIDE**, among lawyers, is as much as to say, such a thing was done really, without either fraud or deceit.

A man is said to possess any thing *bona-fide*, who is ignorant of that thing's being the property of another; on the contrary, he is said to possess a thing *mala-fide*, who is conscious of its being the property of another.

BONA NOTABILIA, are such goods as a person dying has in another diocese besides that wherein he dies; amounting to the value of 5 l. at least; in which case the will of the deceased must be proved, or administration granted in the court of the archbishop of the province, unless by composition, or custom, any dioceses are authorized

thorised to do it, when rated at a greater sum.

BONA PATRIA, an assise of countrymen, or good neighbours, where twelve or more are chosen out of the country to pass upon an assise, being sworn judicially in the presence of the party.

BONAIRE, an island near the coast of Terra Firma, in South America, situated in 67° west long. and $12^{\circ} 30'$ north lat. It is subject to the Dutch, who traffic from thence with the Caraccas-coast.

BONASUS, in zoology, a species of wild ox, very thick and bulky, and furnished with a mane like a horse. See plate XXIX. fig. 2.

The bonafus is a very unwieldy animal, being larger than our bull: the horns are but short, and so turned as to be unfit for wounding: the nostrils are wide and the ears long and broad: the colour of the animal is a deep rawny; only the forehead and the breast are white, and the mane is of a darker colour than that of the rest of the body. When pursued, it does not attempt to defend itself with its horns, but kicks, and discharges its dung to a great distance against the pursuers.

BONAVISTA, one of the cape Verde islands, subject to Portugal: west long. 23° , and north lat. $16^{\circ} 30'$.

BOND, an obligatory instrument, or deed, in writing, whereby one binds himself to another to pay a certain sum of money, or perform some certain acts; as that the obligor shall make a release, execute a sufficient conveyance of his estate, save the obligee harmless, perform the covenants of a deed, &c.

A bond contains an obligation with a penalty, and a condition generally written under it, which expressly mentions the sum that is to be paid, or other thing to be performed, and to whom, with the limited time thereof, for which the obligation is peremptorily binding.

The condition of a bond must be to do something lawful; for if it be to perform an act *malum in se*, as to kill a person, &c. it is void: likewise bonds not to use trades, &c. are unlawful and void: so also are bonds made by compulsion, by infants, and *feme covert*s, &c. but if a drunken man voluntarily gives his bond, it shall bind him; and a bond, though it be without any consideration, is binding. Where a bond has no date, or a false one is inserted therein, if it be sealed and delivered, it is a good bond; and a

person shall not be charged by any bond, though signed and sealed, without delivery or words, or other thing, amounting to it. Notwithstanding a bond be made to pay money on the 30th of February, and there be no such day, the bond is good, and the money shall be paid presently. It is the same if no time is limited; in that case it must be immediately paid, or in convenient time.

If a bond be of twenty years standing, and no demand is proved to be made thereon, or good cause shewn for so long forbearance, upon pleading the payment at the day, it shall be intended paid.

BOND, in carpentry, a term among workmen; as, to make good bond, means that they should fasten the two, or more pieces, together, either by tenanting, mortising, or dovetailing, &c.

BONDAGE, properly signifies the same with slavery; but, in old law-books, is used for villenage. See **VILLENAGE**.

BOND-MAN, the same with villain. See the article **VILLAIN**.

BONE, in anatomy, a hard, brittle, insensible part of the body, affording form and support to the whole machine.

The doctrine of the bones makes a particular branch of anatomy, under the denomination of osteology. See the article **OSTEOLOGY**.

The formation or genesis of the bones, is called ossification or osteogony. See the article **OSSIFICATION**.

A system of the several bones of a body, dried, whitened, and joined together in their natural order by art, is called a skeleton, and animals without bones are said to be anostei; such are all the species of reptiles, insects, &c.

The integral or constituent parts of bones, are their periosteum, or investing membrane, their substance, pores, marrow, glands, vessels, &c.

The periosteum hath two sorts or series of fibres; the under, derived from the *dura mater*; the upper, from the membrane of the muscles that lies upon it; which fibres lie one upon the other, but are not interwoven one with the other: the under fibres run all parallel from one end of the bone to the other, and are continued from one bone to another, by means of the ligaments that join them together in their articulations, upon which they pass. The outer hold the same course with the fibres of the muscle, from whence they are derived, sometimes straight, sometimes oblique, sometimes

transverse; and when they run so far as to make up their part of the periosteum, it is thought they are inserted into the bone, and are succeeded by others, from some other muscles. The inner superficies of the periosteum, sticks as close to the bone as if it were glued to it; and besides, the periosteum has little *fibrillæ* or threads continued from it, that enter into the substance of the bone, which give them probably some internal sense.

The uses ascribed to it are, 1. To be a tegument to the bones. 2. To convey spirits into the substance of the bones, for maintaining their heat, for preserving their sensibility, and to assist in the work of their concretion and nutrition, by means of the minute fibres it emits into them. 3. To help to set limits to the growth and extension of the bones, as the bark is sometimes observed to bind young trees so, that it is necessary to open it, before they can have the liberty of thriving. 4. It is serviceable in the conjunction of the bones, and their epiphyses.

The substance of the bones is said to consist of lamellæ, or plates lying one upon the other; and consist of small strings, running lengthways of the bones (like as we see in whale-bone) which strings, tho' some of them run to the very extremities of the bones, and others approach near to them, do not terminate there, so as to have distinct ends; but they are, where they may be thought to terminate, still continued, and run transversely, and as it were, arch-wise; so that the strings of one side of the bone proceed so as to meet and be united to those that are propagated from the opposite; and this at both extremities; being a continuation, tho' not in the figure, yet in the manner of a ring: therefore they are not all of a length, but in every plate they fall one shorter than another.

In several bones, the lamellæ are disposed diversly. In those bones which have a large cavity, they are on every side contiguous, and closely united; but in those which have not any great cavity, but are altogether spongy within, many of the internal laminæ are placed at some distance one from another in all their lengths, having between them a cavernous substance, or small bony cells; and so have all those bones, containing a large cavity, some of those cells at both their extremities.

In the bones whose plates are contigu-

ous, there are pores thro' and between the plates, besides those which are made for the passage of the blood-vessels; and these are of two sorts, the one penetrate the laminæ, and are transverse, looking from the cavity to the external superficies of the bone. The second sort are formed between the plates, which are longitudinal and strait, tending from one end of the bone towards the other, and observing the course of the bony strings. The first kind are formed not only in the first internal laminæ, but in every one, even to the outermost; though the nearer they are to the cavity, the greater is the number of the pores.

The second kind, *viz.* the longitudinal, are not to be observed but by the help of good glasses; unless it be now and then in some particular bones: by these it is that the medullary oil diffuses itself, and is immediately beneficial to the plates. The other, *viz.* the transverse, are but subordinate to these, and rather designed for the passage of the marrow into them, than for the immediate communication of it to the substance of the bone.

The medulla, contained in the bones, consists (besides the blood-vessels) of an investing membrane, in which are included membranaceous lobules, and bags; and in these bags vesiculæ, or glandulous bladders, very like the vesicular substance of the lungs. See the articles MARROW and MEDULLA.

Dr. Haver's divides also the blood-vessels of the bones into nutritious and medullary; the most considerable of the nutritious enter at the ends of the bone, *viz.* the artery at one end, and the veins at the other.

Some bones have long cavities in them, as the os humeri and femoris, the ulna and radius, tibia and fibula, &c. besides these large cavities which are in the inside of the bones, there are less cells or caverns in their substance, which are found in all bones, even those which have a large cavity: besides these, most have superficial cavities, or sinuses, which are distinguished into sulci, or furrows, and the holes for the nutritious and medullary vessels to enter by.

On the surface of the bones are observed two kinds of prominences, one of which is a continued part of the bone jutting apparently above its plain superficies, for the more commodious insertion of the muscles, &c. called apophysis, or processus; the other an additional bone, growing

growing to another by mere continuity, being generally more soft and porous than the other, and called an epiphysis, or appendage.

The bones are connected together various ways, according to the various purposes they are to serve, some being intended for motion, others for rest, and the support of the incumbent parts only.

The number of the bones is various in various subjects; ordinarily it is about two hundred and forty-two, some say three hundred, others three hundred and seven, others three hundred and eighteen; but the later writers fix it at two hundred and forty nine, or two hundred and fifty.

Wounds of the BONES. As blunt instruments usually make fractures of the bones; so sharp ones, such as swords, spears, &c. do, properly speaking, sometimes wound them; and these wounds cannot be suffered, without a great variety of symptoms, which are often very dangerous, according to the size and depth of the wound, and the nature of the wounded part. Such slight wounds as do not penetrate deep into the bone, are often attended with no great danger, especially if proper care be taken in the dressing of them, and the injured bone be as much as possible kept covered with its integuments; from the injuries of the external air. All fat and oily medicines must be wholly rejected in wounds of this kind, as great enemies to the bones. But when wounds of this kind penetrate deep, and wholly divide the bone and its adjacent parts, or violently affect any of the organs necessary to life, in the head, neck, back bone, or breast, with a puncture or division of the longer veins, arteries, nerves, and tendons of the upper and lower limbs, the danger is always great, the cure difficult, and death too often the consequence.

Petit has advised, that in wounds of the bones, if the solution be inflicted lengthwise, the lips of the wound are to be closed and united by the uniting bandage; but if the wounds are very oblique; or wholly transverse, then they are to be joined together by suture, and the eighteen-headed bandage; but this is certainly a wrong method in many cases of this kind. Indeed, in the first kind of these wounds, and when they are very slight, as when the skull is not wholly, nor indeed very deeply penetrated, and that without confusion, nor the brain much hurt, this method may do very

well; but when the contrary of these mild symptoms are the case, a very different method of cure is to be attempted; the wound is to be kept open with lint, and not healed up till thoroughly cleansed; for, by a too speedy closure of such wounds, the very worst symptoms, and even death very often, are brought on.

So also, in slight, oblique, or transverse wounds of the bones, the suture, or the eighteen-headed bandage, may be used with safety and success; but these are seldom necessary; and in oblique wounds of the head, forehead, and cranium, if not violent ones, the parts may be much easier closed and retained by a common bandage and plaster, than by sutures with the needle, or the eighteen-headed bandage; but when the divided part hangs down, the suture may indeed be necessary.

If the bones of the fingers are thus wounded, or wholly divided by a sword, they may be happily cured without the suture, by the following method. First, accurately replace the divided bone, then secure it in its place, by winding round a slip of plaster, and, over this, applying a compress dipped in spirit of wine, and laying over all little slips of pasteboard, by way of splints; then binding up the whole with a proper narrow bandage, and hanging the arm in a sling from the neck. Once, in about three days, the dressing is to be removed, and the wound treated with a vulnerary essence; and in a month the cure will be perfected.

If either of the bones of the cubitus be divided, it usually is the ulna, as that is most exposed to the sword in fighting. This case requires neither the suture nor eighteen-headed bandage; but the wound being cleansed, is to be treated with some vulnerary essence or balsam, and with lint dipped in the same essence; after which are to be laid on, in order, the plaster, compress, and pasteboard splints, wetted with spirit of wine, which are to be bound round the thick part of the cubitus near the wound, with a long bandage, that, as they dry, they may accommodate themselves the better to the figure of the part; and, lastly, the arm is to be suspended in a sling hung round the neck: after this, the wound is to be dressed every day, or every other day, in proportion to the discharge, and a cure without the help of the suture will be easily effected; the suture in such cases, being not only unnecessary but pernicious. But if both bones

are divided, then indeed the eighteen-headed bandage may be necessary, and used with advantage; but, even in this case, the future is much better let alone: for it is always to be avoided, except when perfectly necessary, from the dangers of inflammation, convulsions, and other bad symptoms that too naturally attend it.

If the thigh-bone, however, should be cut with a sword, in that case the bloody future will be of service, and is even necessary to close and retain those very strong muscles: the wound is, in this case, to be carefully treated, and the limb laid up in a case of straw, as in other fractures: so also, if the bone of the humerus, or arm, should be penetrated with a sword, that wound also should, for the same reason, be treated by the future; but then it is not to be dressed with the eighteen-headed bandage, but with the common long and narrow bandage used in other fractures of the arm; the limb is afterwards to be supported by a short napkin, fastened about the neck, by which means the muscles will be brought to a more ready union, and the cure sooner perfected.

If it should happen that both bones of the cubitus or leg should be divided by a sword, so as to leave the limb hanging only by the flesh, skin, and blood vessels, which is a case that very rarely happens, without wholly amputating the limb, then also the future, with the eighteen-headed bandage, are the necessary applications; the future, however, can be of no service in a case of this kind, when the flesh and blood-vessels are divided, and the limb so far cut off, as to hang only by a skin, especially when the part is so considerable as the leg or arm; for, in these cases, the limb must be taken off, and the stump dressed as in other amputations.

When the lower jaw is so cut by a sword, that the piece separates, and cannot be otherwise retained, then also the future may be used, adding a proper compress, plasters, and the suitable bandage. If the clavicle, or acromion scapulæ, should in like manner, be wounded by a sword, the treatment and bandage are to be of the same kind, gently unbending, cleansing and dressing the part either every day, or every other day, as the discharge shall require, till the cure is perfected.

No medicines so effectually prevent the corruption of bones laid bare, and assist to cover them so soon with flesh, as oint-

ments, balsams, and dressing seldom, to have the assistance of the most effectual balsam of all, *pus*. With these we see the extremities of amputated bones covered over with flesh, part of the skull, tibia, and other solid bones, covered in a little time with granulated flesh, after they had been laid quite bare by wounds made even with bruising instruments; and likewise after their carious surface had been cut off, and a complete cure made, without the least exfoliation.

Other accidents to which the BONES are liable, are fractures, luxations, &c. See the articles FRACTURE, LUXATION, &c.

Diseases of the BONES, are caries, exostoses, fissures, nodes, tophi, rickets, &c. See CRIES, EXOSTOSIS, &c.

Fossile or petrified BONES, those found buried in different strata, not excepting the hardest rocks, where they have undergone so great a change as to be converted into a stony substance. See the article PETRIFICATION.

Neper's BONES. See the article NEPER's BONES.

BONE-ACE, an easy but licking game at cards, played thus: the dealer deals out two cards to the first hand, and turns up the third, and so on through all the players, who may be seven, eight, or as many as the cards will permit; he that has the highest card turned up to him, carries the bone, that is, one half of the stake, the other remaining to be played for: again, if there be three kings, three queens, three tens, &c. turned up, the eldest hand wins the bone: but it is to be observed, that the ace of diamonds is bone-ace, and wins all other cards whatever. Thus much for the bone; and as for the other half of the stake, the nearest to thirty-one wins it, and he that turns up or draws thirty-one, wins it immediately.

BONGO, or **BUNGO**, the capital of one of the islands of Japan, to which it gives name: east longitude 132° , and north latitude $32^{\circ} 30'$.

It is a sea-port town, situated on the east side of the island, opposite to the island of Tonfa, from which it is separated by a narrow channel.

BONIFACIO, in geography, a port-town of Corsica, situated at its south end, in $9^{\circ} 20'$ east longitude, and $41^{\circ} 20'$ north latitude.

It is one of the best towns in the whole island, and gives name to the straight between Corsica and Sardinia.

BONIS NON AMOVENDIS, in law, is a writ directed to the sheriffs of London, &c. charging them, that a person, against whom judgment is obtained, and prosecuting a writ of error, be not suffered to remove his goods until the error is determined.

BONITO, in ichthyology, a very beautiful fish, of the tunny-kind, with a broad gold coloured streak running along the middle of each side from the gills to the tail. See the article **SCOMBER**.

BONNET, in a general sense, denotes a cover for the head, in common use before the introduction of hats. See **HAT**. Bonnets are still used in many parts of Scotland.

BONNET, in fortification, a small work, consisting of two faces, having only a parapet with two rows of palisadoes, of about ten or twelve feet distance: it is generally raised before the salient angle of the counterscarp, and has a communication with the covered way, by a trench cut through the glacis, and palisadoes on each side.

BONNET A' PRETRE, or *priest's BONNET*, in fortification, is an out-work, having at the head three salient angles, and two inwards. It differs from the double tenaille only in this, that its sides, instead of being parallel, are like the *queue d'aronde*, or swallow's tail, that is, narrowing, or drawing close at the gorge, and opening at the head.

BONNET, in the sea-language, denotes an addition to a sail; thus they say, lace on the bonnet, or shake off the bonnet.

BONNEVILLE, a town of Savoy, situated on the north side of the river Arve, about twenty miles south-east of Geneva, in $6^{\circ} 10'$ east longitude, and $46^{\circ} 18'$ north latitude.

BONNY, among miners, a bed of ore, differing only from a squat as being round, whereas the squat is flat. See the article **SQUAT**.

BONTIA, in botany, a genus of the *dynamia-angioipermia* class of plants: the flower consists of a single petal, the upper lip of which is erect and emarginated, and the lower lip bent back; the fruit is a large drupe, of an oval figure, containing only a single seed.

BONZES, indian priests, who, in order to distinguish themselves from the laity, wear a chaplet round their necks, consisting of an hundred beads, and carry a staff, at the end of which is a wooden

bird; they live upon the alms of the people, and yet are very charitably disposed, maintaining several orphans and widows out of their own collections. The tonquinese have a pagod, or temple, in each town, and every pagod has at least two bonzes belonging to it; some have thirty or forty. The bonzes of China are the priests of the sohiists, or sects of Fohi; and it is one of their established tenets, that there are rewards allotted for the righteous, and punishments for the wicked, in the other world; and that there are various mansions, in which the souls of men will reside, according to their different degrees of merit. The bonzes of Pegu are, generally, gentlemen of the highest extraction.

BOOK, liber, the composition of a man of wit or learning, designed to communicate somewhat he has invented, experienced, or collected, to the public, and thence to posterity; being without of a competent length to make a volume.

In this sense, a book is distinguished from a pamphlet, by its greater length; and from a tome or volume, by its containing the whole writing. According to the antients, a book differed from an epistle, not only in bulk, but in that the latter was folded, and the former rolled up; not but that there are divers antient books now extant, under the names of epistles.

Origin of Books. We have nothing that is clear on that subject. The books of Moses are doubtless the oldest books now extant; but there were books before those of Moses, since he cites several. Scipio Sgambati, and others, even talk of books before the deluge, written by the patriarchs Adam, Seth, Enos, Cainan, Enoch, Methusalem, Lamech, Noah and his wife; also by Ham, Japhet and his wife; besides others by demmons or angels; of all which some moderns have found enough to fill an antediluvian library: but they appear all either the dreams of idle writers, or the impostures of fraudulent ones. A book of Enoch is even cited in the Epistle of Jude, ver. 10 and 15. from which some endeavour to prove the reality of the antediluvian writings; but the book cited by that apostle is generally allowed, both by antient and modern writers, to be spurious.

Of profane books, the oldest extant are Homer's poems, which were so even in the time of Sixtus Empiricus; though we find mention in greek writers of leventy others prior to Homer, as Hermes, Orpheus, Daphne, Horus, Linus, Museus, Palamedes, Zoroaster, &c. but of the greater part of these there is not the least fragment remaining; and of others, the pieces which go under their names are generally held, by the learned, to be supposititious. F. Hardouin goes farther, charging all the antient books, both greek and latin, except Cicero, Pliny, Virgil's Georgics, Horace's Satires and Epistles, Herodotus, and Homer, to be spurious, and forged in the XIIIth century, by a club of persons, under the direction of one Severus Arcontius. Among the Greeks, it is to be observed, the oldest books were in verse, which was prior to prose: Herodotus's History is the oldest book extant of the profane kind.

Materials of Books. Several sorts of materials were used formerly in making books: plates of lead, and copper, the barks of trees, bricks, stone, and wood were the first materials employed to engrave such things upon, as men were willing to have transmitted to posterity. Josephus speaks of two columns, the one of stone, the other of brick, on which the children of Seth wrote their inventions and astronomical discoveries: Porphyry makes mention of some pillars, preserved in Crete, on which the ceremonies, practised by the Corybantes in their sacrifices, were recorded: Hesiod's works were originally written upon tables of lead, and deposited in the temple of the Muses, in Boeotia: the ten commandments, delivered to Moses, were written upon stone; and Solon's laws, upon wooden planks. Tables of wood, box, and ivory, were common among the antients: when of wood, they were frequently covered with wax, that people might write on them with more ease, or blot out what they had written. The leaves of the palm-tree were afterwards used instead of wooden planks, and the finest and thinnest part of the bark of such trees, as the lime, the ash, the maple, and the elm; from hence comes the word *liber*, which signifies the inner bark of the trees; and as these barks were rolled up, in order to be removed with greater ease, these rolls were called *volumen*, a volume; a name afterwards given to the like rolls of

paper, or parchment.

Thus we find books were first written on stones, witness the decalogue given to Moses: then on the parts of plants, as leaves chiefly of the palm tree; the rind and bark, especially of the tilia, or phillyrea, and the egyptian papyrus. By degrees wax, then leather, were introduced, especially the skins of goats and sheep, of which at length parchment was prepared: then lead came into use; also linen, silk, horn, and, lastly, paper itself.

Form of Books. The first books were in the form of blocks and tables: but as flexible matter came to be wrote on, they found it more convenient to make their books in the form of rolls: these were composed of several sheets, fastened to each other, and rolled upon a stick, or *umbilicus*; the whole making a kind of column, or cylinder, which was to be managed by the *umbilicus* as a handle, it being reputed a crime to take hold of the roll itself: the outside of the volume was called *frons*; the ends of the *umbilicus*, *cornua*, horns, which were usually carved, and adorned with silver, ivory, or even gold and precious stones: the title, *συλλαβή*, was struck on the outside; the whole volume, when extended, might make a yard and a half wide, and fifty long. The form which obtains among us is the square, composed of separate leaves; which was also known, though little used, by the antients.

To the form of books belongs also the internal oeconomy, as the order and arrangement of points and letters into lines and pages, with margins and other appurtenances: this has undergone many varieties; at first the letters were only divided into lines, then into separate words, which, by degrees, were noted with accents, and distributed, by points and stops, into periods, paragraphs, chapters, and other divisions. In some countries, as among the orientals, the lines began from the right and ran leftward; in others, as the northern and western nations, from left to right; others, as the Greeks, followed both directions, alternately going in the one, and returning in the other, called *boustrophedon*: in most countries the lines run from one side to the other: in some, particularly the Chinese, from top to bottom. Again, in some the page is entire and uniform, in others, divided into columns; in others,

distinct

distinguished into text and notes, either marginal, or at the bottom; usually it is furnished with signatures, and catch-words; sometimes also with a register, to discover whether the book is complete. To these are added the apparatus of summaries or side-notes, the embellishments of red, gold, or initial letters, head-pieces, tail-pieces, effigies, schemes, maps, and the like. The end of the book, now denoted by FINIS, was antiently marked with this character ∇, called *cornis*: there also occur certain formulas at the beginnings and endings of books; the one to exhort the reader to be courageous, and proceed to the following books; the others were conclusions, often guarded with imprecations against such as should falsify them.

Uses of Books. It is certain, that books make one of the chief instruments of acquiring knowledge; they are the repositories of the law, and vehicles of learning of every kind; our religion itself is founded on books, and without them, says Bartholin, God is silent, justice dormant, physic at a stand, philosophy lame, letters dumb, and all things involved in cimmerian darkness. The eulogia which have been bestowed upon books are infinite: they are represented as the refuge of truth, which is banished out of conversation: as standing counsellors and preachers, always at hand, and always disinterested; having this advantage over all instructions, that they are ready to repeat their lesson as often as we please. Books supply the want of masters, and even, in some measure, the want of genius and invention, and can raise the dullest persons, who have memory, above the level of the greatest geniuses, if destitute of their help. Perhaps their greatest glory is the affection borne them by many of the greatest men of all ages. M. Cato, the elder Pliny, the emperor Julian, and others, are on record for their great devotion to books: the last has perpetuated his passion by some Greek epigrams in their praise. Richard Bury, bishop of Durham, and lord-chancellor of England, has an express treatise on the love of books.

Bad effects objected to Books. On the other hand it is said, that they employ too much of our time and attention, engage us in pursuits of no use to the commonwealth, and indispose us for the functions of civil life; that they render many lazy, and prevent their exerting

their own talents, by furnishing them, on every occasion, with things of the growth of others; and that our natural lights become weakened and extinguished by inuring ourselves only to see with foreign lights: besides, that all men are thereby furnished with means of imposing on the people, and propagating superstition, immorality, enthusiasm, or irreligion, which will always spread faster, and be received more greedily than lessons of truth and virtue.

Art of writing or composing Books. To this end we have much fewer helps and instructions, than for the art of speaking; though the former be the more difficult of the two, as a reader is not so easy to be imposed on, but has better opportunities of detecting frauds than a hearer. A great cardinal, indeed, reduces an author's business to a few heads, were they but as easily practised as prescribed: let him consider who it is writes, what, how, why, and to whom. To write a good book, an interesting subject must be chosen, which is to be long and closely meditated on; and of the sentiments that offer themselves, those which are already commonly known are to be rejected; few or no digressions from the main point are to be allowed; quotations rarely made, and then only to prove some important truth, or embellish the subject with some beautiful and uncommon observations, never bringing an antient philosopher on the stage, to say what the meanest lacquey could have said as well; nor making a sermon, unless the business be to preach.

Marks of good Books. These are, according to Selden, solidity, perspicuity, and brevity. The first will be attained by keeping the piece long by us, often reviewing and correcting it, by the advice of friends: the second, by disposing the sentiments in a due order, and delivering them under proper and usual expressions: the third, by rejecting every thing that does not immediately concern the subject.

To judge of a Book. Those who have treated of the subject, direct us to observe the title, the author's or editor's name, the number of editions, the place where, and the year when it was printed; proceed then to the preface, and look for the author's design, and the occasion of his writing; consider also his country (each nation having its peculiar genius), and the person by whose order he wrote: if his life be annexed to it, run it over, and note
his

his profession, and what rank he was of, what is remarkable in his education, studies, conversation, &c. If the preface does not give an account of the method of the work, run briefly over the order and disposition of it, and note what points the author has handled.

Foreign Books. All foreign bound books pay duty on importation 14 s. for every 112 lb. As to unbound books, they are commonly entered by the hundred weight, and pay, if French, 13 s. 6 $\frac{1}{4}$ d. but if from any other country, only 7 s. 7 $\frac{1}{4}$ d. It is also to be observed, that all popish books are prohibited to be imported; as are all english books printed abroad, unless with the consent of the proprietor of the copy.

Common-place Book. See COMMON-PLACE BOOK.

Text-Book. See the article TEXT.

BOOKS, in a mercantile sense, the several registers wherein merchants and other dealers keep their accounts.

Merchants books are kept either single, or according to the method of double entry. They who keep them in the former method, have occasion for few books, as a journal, or day-book; and a ledger, or post book: the former to write all the articles following each other as they occur in the course of their business; and the other to draw out the accounts of all the debtors and creditors on the journal. This method is only proper for retail dealers, or at least for traders who have but very little business: but as for wholesale dealers and great merchants, who keep their books according to the double entry, or italian method, as is now most commonly done, their business requires several other books, the usefulness of which will be seen from what follows.

The most considerable books, according to the method of double entry, are the waste-book, the journal, and the ledger; but besides these three, which are absolutely necessary, there are several others, to the number of thirteen, or even more, called subservient or auxiliary books, which are used in proportion to the business a man has, or to the nature of the business a man carries on. These books are the cash-book, the debt-book, the book of numeros, the book of invoices, the book of accounts current, the book of commissions, orders, or advices, &c.

The waste-Book may be defined a register, containing an inventory of a merchant's

effects, and debts, with a distinct record of all his transactions and dealings, in a way of trade, related in a plain simple stile, and in order of time as they succeed one another.

The waste-book opens with the inventory, which consists of two parts; first, the effects, that is, the money a merchant has by him, the goods he has in hand, his part of ships, houses, farms, &c. with the debts due to him; the second part of the inventory is the debts due by him to others: the difference between which, and the effects, is what the merchants call neat stock. When a man begins the world, and first sets up to trade, the inventory is to be gathered from a survey of the particulars that make up his real estate; but ever after is to be collected from the ballance of his old books, and carried to the new.

After the inventory is fairly related in the waste-book, the transactions of trade come next to be entered down; which is a daily task to be performed as they occur. The narrative ought to exhibit transactions with all the circumstances necessary to be known, and no more. It should contain the names of persons with whom the merchant deals upon trust, the conditions of bargains, the terms of payment, the quantity, quality, and prices of goods, with every thing that serves to make the record distinct, and nothing else. The waste-book, if no subsidiary books are kept, should contain a record of all the merchant's transactions and dealings in a way of trade; and that not only of such as are properly and purely mercantile, but of every occurrence that affects his stock, so as to impair or increase it, such as private expences, servants fees, house-rents, money gained, &c.

The journal, or day-Book, is the book wherein the transactions recorded in the waste-book are prepared to be carried to the ledger, by having their proper debtors and creditors ascertained and pointed out: whence it may be observed, that the great design of the journal is to prevent errors in the ledger: again, after the ledger is filled up, the journal facilitates the work required in revising and correcting it; for first the waste-book and journal are compared, and then the journal and ledger; whereas to revise the ledger immediately from the waste-book, would be a matter of no less difficulty, than to form it without the help of a journal: lastly, the jour-

journal is designed as a fair record of a merchant's business, for neither of the other two books can serve this purpose; not the ledger, by reason of the order that obtains in it, and also on account of its brevity, being little more than a large index: nor can the waste-book answer this design, as it can neither be fair nor uniform, nor very accurate, being commonly written by different hands, and in time of business. Hence it is, that in case of differences between a merchant and his dealers, the journal is the book commonly called for, and inspected by a civil judge.

In the journal, persons and things are charged debtors to other persons and things as creditors; and in this it agrees with the ledger, where the same file is used, but differs from it as to forms and order; so that it agrees with the waste-book in those very things where it differs from the ledger; and on the other hand, it agrees with the latter, in the very point wherein it differs from the former: but in order to state the comparison betwixt the waste-book and journal, we shall turn two or three examples of the waste-book into a journal form.

WASTE-BOOK.

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|--|---|-------|----|----|
| Bought of William Pope 40 yards of black cloth, at 14 s. per yard, | } | 28 | 00 | 00 |
| payable in three months, | | | | |
| <hr/> | | | | |
| Bought of James Sloan 100 yards of shalloon, at 10 d. | | | | |
| per yard. | | l. | s. | d. |
| Whereof paid, | | 02 | 00 | 00 |
| Rest due, at two months, | | 02 | 03 | 04 |
| | | <hr/> | | |
| | | 4 | 03 | 04 |
| <hr/> | | | | |
| 4th. | | | | |
| Sold William Pope four pipes of port wine, at 27 l. 10 s. per | | | | |
| pipe. | | l. | s. | d. |
| Whereof received, | | 55 | 00 | 00 |
| Rest due, on demand, | | 55 | 00 | 00 |
| | | <hr/> | | |
| | | 110 | 00 | 00 |

JOURNAL.

| July 1st. | | l. | s. | d. |
|---|--|-------|----|----|
| BLACK CLOTH Dr. to WILLIAM POPE, 28 l. | | 28 | 00 | 00 |
| For 40 yards, at 14 s. per yard, payable in three months, | | | | |
| <hr/> | | | | |
| SHALLOON Dr. to SUNDRIES, 4 l. 3 s. 4 d. | | l. | s. | d. |
| To Cash paid in part for 100 yards, at 10 d. per yard, | | 02 | 00 | 00 |
| To J. Sloan, for the rest, due at two months, | | 02 | 03 | 04 |
| | | <hr/> | | |
| | | 4 | 03 | 04 |
| <hr/> | | | | |
| 4th. | | l. | s. | d. |
| SUNDRIES Drs. to PORT WINE, 110 l. | | 55 | 00 | 00 |
| Cash, received in part for four pipes, at 27 l. 10 s. per pipe, | | 55 | 00 | 00 |
| William Pope, for the rest on demand, | | <hr/> | | |
| | | 110 | 00 | 00 |

It may be here observed, that every case or example of the waste-book, when entered into the journal, is called a journal post, or entrance; thus the examples above, make three direct posts. Again, a post is either simple or complex: a

simple post, is that which has but one debtor, and one creditor, as the first of these above; a complex post, is either when one debtor is ballanced by one or more creditors, as in the second post; or when two or more debtors are ballanced

lanced by one creditor, as in the third post; or when several debtors are balanced by several creditors; and then the post is said to be complex in both terms. This being premised, the following rules are to be observed for writing in the journal.

1. In a simple post, the debtor is to be expressly mentioned, then the creditor, and lastly the sum, all in one line; after which, the narrative, or reason of the entry, in one or more lines, as in the first of these three posts above.

2. In a complex post, the several debtors, or creditors, are expressed in the first line, by themselves, with their respective sums subjoined to them, which are to be added up, and their total carried to the money columns, as in the second and third posts.

3. The debtors and creditors should be written in a large letter, or text hand, both for ornament and distinction.

Before we proceed to explain the ledger, we shall previously inquire into the nature and use of the terms debtor and creditor, as the whole art of book-keeping entirely depends on a true idea of those terms, the nature and use of which will be obvious from the following considerations.

Accounts in the ledger consist of two parts, which in their own nature are directly opposed to, and the reverse of one another, which are therefore set fronting one another, and on opposite sides of the same folio. Thus all the articles of the money received, go to the left side of the cash account; and all the articles or sums laid out, are carried to the right. In like manner, the purchase of goods is posted to the left side of the accounts of the said goods, and the sale or disposal of them to the right.

Transactions of trade or cases of the waste-book, are also made up of two parts, which belong to different accounts, and to opposite sides of the ledger, *e. g.* If goods are bought for ready money, the two parts are the goods received, and the money delivered; the former of which goes to the left side of the account of the said goods, and the latter to the right side of the cash account.

The two parts in any case in the waste-book, when posted to the journal, are denominated the one the debtor, the other the creditor of that post; and when carried from thence to the ledger, the debtor,

or debtor part, is entered upon the left side (hence called the debtor side) of its own account, where it is charged debtor to the creditor part: again, the creditor, or creditor part, is posted to the right side or creditor side of its account, and made creditor by the debtor part. Hence italian book-keeping is said to be a method of keeping accounts by double entry, because every single case of the waste-book requires at least two entrances in the ledger, *viz.* one for the debtor, and another for the creditor.

From what has been said, it is evident that the terms debtor and creditor, are nothing else but marks or characteristics stamped upon the different parts of transactions in the journal, expressing the relation of these parts to one another, and shewing to which side of their respective accounts in the ledger they are to be carried.

Having thus far explained the meaning of the terms debtor and creditor, we shall now proceed to the ledger, or principal book of accounts.

Of the ledger. The ledger is the principal book wherein all the several articles of each particular account, that lie scattered in other books, according to their dates, are collected, and placed together in spaces allotted for them, in such a manner, that the opposite parts of every account, are directly set fronting one another, on opposite sides of the same folio.

The ledger's folios are divided into spaces for containing the accounts, on the head of which are written the titles of the accounts, marked Dr. on the left hand page, and Cr. on the right: below which stand the articles, with the word *To* prefixed on the Dr. side, and the word *By* on the Cr. side; and upon the margin are recorded the dates of the articles, in two small columns allotted for that purpose. The money columns are the same as in other books: before them stand the folio column, which contains figures, directing to the folio where the corresponding ledger-entrance of each article is made; for every thing is twice entered in the ledger, *viz.* on the Dr. side of one account, and again on the Cr. side of some other account; so that the figures mutually refer from the one to the other, and are of use in examining the ledger. Besides these columns, there must be kept in all accounts, where number, measure, weight, or distinction of coins is considered,

ed, inner columns, to insert the quantity; and for the ready finding any account in the ledger, it has an alphabet, or index, wherein are written the titles of all accounts, with the number of the folio where they stand.

How the ledger is filled up from the journal.

1. Turn to the index, and see whether the Dr. of the journal-post, to be transported, be written there; if not, insert it under its proper letter, with the number of the folio to which it is to be carried.

2. Having distinguished the Dr. and the Cr. sides, as already directed, recording the dates, complete the entry in one line, by giving a short hint of the nature and terms of the transaction, carrying the sum to the money columns, and inserting the quantity, if it be an account of goods, &c. in the inner columns, and the referring figure in the folio column.

3. Turn next to the Cr. of the journal-post, and proceed in the same manner with it, both in the index and ledger; with this difference only, that the entry is to be made on the Cr. side, and the word *By* prefixed to it.

4. The post being thus entered in the ledger, return to the journal, and on the

margin mark the folios of the accounts, with the folio of the Dr. above, and the folio of the Cr. below, and a small line between them thus $\frac{2}{1}$. These marginal numbers of the journal, are a kind of index to the ledger, and are of use in examining the books, and on other occasions.

5. In opening the accounts in the ledger, follow the order of the journal; that is, beginning with the first journal-post, allow the first space in the ledger for the Dr. of it, the next for the Cr. the third for the Dr. of the following post, if it be not the same with some of those already opened, and so on till the whole journal be transported; and supposing that, thro' inadvertency, some former space has been allowed too large, you are not to go back to subdivide it, in order to erect another account in it.

Tho' these rules are formed for simple posts, where there is but one Dr. and one Cr. yet they may be easily applied to complex ones.

As examples, how articles are to be entered in the ledger, take the two accounts of CASH and WILLIAM POPE, so far as mentioned in the above waste-book and journal.

| 1751 | | CASH | Dr. | Fo. | l. | s. | d. |
|------|---|---|-----|-----|----|----|----|
| July | 4 | To port-wine, received in part for four pipes, at 27 l. 10 s. per pipe, | | 6 | 55 | 00 | 00 |
| | | | | | | | |
| | | WIL. POPE Dr. | | | | | |
| July | 4 | To port-wine, as per journal, | | 6 | 55 | 00 | 00 |

| 1751 | | CONTRA | Cr. | Fo. | l. | s. | d. |
|------|---|---|-----|-----|----|----|----|
| July | 1 | By shalloon, paid in part for 100 yards, at 10 d. per yard, | | 12 | 2 | 00 | 00 |
| | | | | | | | |
| | | CONTRA | Cr. | | | | |
| July | 1 | By black cloth, for 40 yards, at 14 s. per yard, | | 3 | 28 | 00 | 00 |

Waste-Book. This is the most important of the auxiliary books. It is so called, because it contains, in debtor and creditor, all the cash that comes in, and goes out of a merchant's stock. The receipts on the debtor's side; the persons of whom it was received, on what, and on whose account, and in what specie; and the payments, on the creditor's side; mentioning also the specie, the reasons of the payments, to whom, and for what account they are made.

Book of debts, or payments, is a book in which is written down the day on which all sums become due, either to be received or paid, by bills of exchange, notes of hand, merchandizes bought or sold, or otherwise. By comparing receipts and payments, one may, in time, provide the necessary funds for payments, by getting the bills, notes, &c. due to be paid, or by taking other precautions.

Book of numero's, or wares. This book is kept in order, to know easily all the
Y y 2 mer-

merchandizes that are lodged in the warehouse, those that are taken out of it, and those that remain therein.

BOOK of invoices. This book is kept to preserve the journal from erasures, which are unavoidable in drawing up the accounts of invoices of the several merchandizes received, sent out, or sold; wherein one is obliged to enter very minute particulars. It is also designed to render those invoices easier to find than they can be in the waste-book, or journal.

BOOK of accounts current. This book serves to draw up the accounts which are to be sent to correspondents, in order to settle them in concert, before they are balanced in the ledger; it is properly a duplicate of the accounts current, which is kept to have recourse to occasionally.

The other mercantile books generally in use are, the book of commissions, orders, or advices; the book of acceptances of bills of exchange; the book of remittances; the book of expences; the copy-book of letters; the book of postage; the ship-books, and the book of workmen. To these may be added others, which depend on the greater or lesser accuracy of the merchants and bankers, and on the several kinds of trade carried on by particular dealers.

BOOK-BINDING, the art of gathering and sewing together the sheets of a book, and covering it with a back, &c. It is performed thus: the leaves are first folded with a folding-stick, and laid over each other in the order of the signature; then beaten on a stone with a hammer, to make them smooth, and open well, and afterwards pressed. While in the press they are sewed upon bands, which are pieces of cord or packthread; six bands to a folio book, five to a quarto, octavo, &c. which is done by drawing a thread thro' the middle of each sheet, and giving it a turn round each band, beginning with the first, and proceeding to the last. After this the books are glued, and the bands open and scraped, for the better fixing the paste-boards; the back is turned with a hammer, and the book fixed in a press between two boards, in order to make a groove for fixing the paste-boards; these being applied, holes are made for fixing them to the book, which is pressed a third time. Then the book is at last put to the cutting-press, betwixt two boards, the one lying even

with the press, for the knife to run upon, the other above it, for the knife to run against: after which the paste-boards are squared.

The next operation is the sprinkling the leaves of the book, which is done by dipping a brush into vermilion and sap-green, holding the brush in one hand, and spreading the hair with the other; by which motion the edges of the leaves are sprinkled in a regular manner, without any spots being bigger than the others.

Then remains the covers, which are either of calf-skin, or of sheep-skin; these being moistened in water, are cut out to the size of the book, then smeared over with paste, made of wheat flour, and afterwards stretched over the paste-board, on the outside, and doubled over the edges withinside; after having first taken off the four angles, and indented and platted the cover at the head-band: which done, the book is covered, and bound firmly between two bands, and then set to dry. Afterwards it is washed over with a little paste and water, and then sprinkled fine with a brush, unless it should be marbled; when the spots are to be made larger, by mixing the ink with vitriol. After this the book is glazed twice, with the white of an egg beaten, and at last polished with a polishing-iron passed hot over the glazed cover.

BOOK-KEEPING, an art teaching how to record and dispose the accounts of business, so as the true state of every part, and of the whole, may be easily and distinctly known. See the article **BOOKS**, in a mercantile sense.

BOOKSELLER, one who trades in books, whether he prints them himself, or gives them to be printed by others.

Booksellers are in many places ranked among the members of universities, and entitled to the privilege of students, as at Tubingen, Salisburg, and Paris, where they have always been distinguished from the vulgar and mechanical traders, and exempted from divers taxes and impositions laid upon other companies.

The traffic of books was antiently very inconsiderable, in so much, that the book-merchants both of England, France, and Spain, and other countries, were distinguished by the appellation of stationers, as having no shops, but only stalls and stands in the streets. During this state, the

the civil magistrates took little notice of the booksellers, leaving the government of them to the universities, to whom they were supposed more immediate retainers; who accordingly gave them laws and regulations, fixed prices on their books, examined their correctness, and punished them at discretion.

But when, by the invention of printing, books and booksellers began to multiply, it became a matter of more consequence, and the sovereigns took the direction of them into their own hands; giving them new statutes, appointing officers to fix prices, and grant licences, privileges, &c.

Authors frequently complain of the arts of booksellers. Lord Shaftsbury gives us the process of a literary controversy blown up by booksellers. The publication of books depend much on the taste and disposition of booksellers.

Among the german writers, we find perpetual complaints of the difficulty of procuring booksellers: many are forced to travel to the book fairs at Frankfort or Leipzig, to find bookellers to undertake the impression of their works.

BOOKING, among merchants, the making an entry of any thing in a journal. See the articles **BOOK** and **JOURNAL**.

BOOM, in the sea-language, a long piece of timber with which the clue of the studding-sail is spread out; and sometimes the boom is used to spread or boom out the clue of the mainmast.

Boom-spars, imported from the british plantations, are free; if from Ireland, Asia, or Africa, they pay 6s. 5d. the hundred; and if from elsewhere, 9s. 6½d.

BOOM denotes also a cable stretched athwart the mouth of a river or harbour; with yards, top-masts, battling or spars of wood lashed to it, to prevent an enemy's coming in.

BOOMING, among sailors, denotes the application of a boom to the sails.

A ship is said to come booming forwards, when she comes with all the sail she can make.

BOOPHTHALMUS, a kind of agat with large circles in it, bearing some resemblance to an ox's eye, from whence it has got this name.

BOOPS, in ichthyology, the sparus, with four parallel, longitudinal, gold and silver-coloured lines on each side.

It is a large and beautiful fish, especially its eyes; from whence it has got the name of boops. There are nineteen rays

in the pinna ani, and the pectoral fins are red. See plate XXIX. fig. 3. and the article **SPARUS**.

BOOT, a well-known cover for the leg, made of leather.

Hunting boots are made of thinner leather than ordinary, as the fishing ones are of a strong thick kind, fit to hold out water.

Jack-BOOTS, a very strong kind, worn by troopers.

BOOT-TREE, or **BOOT-LAST**, an instrument used by shoe-makers to widen the leg of a boot. It is a wooden cylinder slit into two parts, between which, when it is put into the boot, they drive by main force a wedge or quoin.

BOOTES, a constellation of the northern hemisphere, consisting of 23 stars, according to Ptolemy's catalogue, of 28 in Tycho's, of 34 in Bayer's, of 52 in Hevelius's, and of 45 in Mr. Flamsteed's catalogue.

BOOTY, whatever is taken from an enemy in time of war. By the law of Moses, the booty taken from the enemy, was to be divided equally between those who were in the battle and the rest of the people. And Moses adds, "Ye shall likewise separate the Lord's share, which ye shall take out of the whole booty belonging to the men of war." The rabbins pretend, that under the kings of Israel, another rule was followed in the distribution of the spoil. 1. Every thing was given to the king which belonged to the conquered king, his tent, slaves, cattle, &c. After this the rest of the booty was divided into two equal parts, of which the king had one moiety, and the other was distributed among the soldiers who were in the action, and those who continued in the camp.

Among the Greeks, the booty was divided equally, a share being reserved for their gods. By the military discipline of the Romans, the booty belonged to the republic, and the generals ordered it all to be carried to the public treasury. Sometimes, indeed, it was distributed among the soldiers, as a reward of their bravery, and in order to animate them in future actions.

BOPPART, a town of the electorate of Triers, situated on the west shore of the Rhine, about eight miles south of Coblenz: east longitude 7° 10', north latitude 50° 20'.

BOQUINIANS, in church history, a sect of heretics,

heretics, so called from Boquinus their founder, who taught that Christ did not die for all mankind, but only for the faithful, and consequently was only a particular saviour.

BORAK, a fabulous animal, said to be of a middle nature between an ass and a mule, and to have carried Mahomet in his aerial journeys from Jerusalem into heaven.

BORASSUS, in botany, a genus of plants, the characters of which are not so well ascertained as to reduce it to any class. The male flowers have the corolla divided into three oval hollow segments resembling petals; and the female flowers have it divided into three round small permanent segments. The fruit is a roundish, obtuse, rigid, unilocular berry, containing three oval, compressed, distinct and filamentose seeds.

BORAX, in natural history, a native salt found in a fluid form, suspended in certain waters, and discovered in them by a sweetish mixed with a brackish and bitter taste; readily separable from them by evaporation, and appearing, when separated, in a solid, bright, and transparent form, and in large, regularly figured bodies, affording, on a nice solution and evaporation, octohedral crystals.

In several parts of the dominions of the great Mogul, in Persia, and in some parts of Tartary, and other places in the east, there oozes out of the sides of hills, which contain metals, and particularly copper, a thick turbid water, of a bluish grey colour, and of a brackish bitter, and very disagreeable taste. This, where it runs in sufficient quantity, is generally taken care of for use, being directed in its course into wide and shallow pits, lined with a stiff clay: in these it is left exposed to the sun, in order to evaporate; but the people who have the care of it, daily mix among it, the grey fine mud left in its passage; and when it is brought to the consistence of a soft pap, they throw into it, in the middle of a hot day, a large quantity of some animal fat melted over the fire. This is all well stirred together, and then covered with sticks and branches of trees; and over these is thrown a crust of any common clay. Thus it is left till perfectly dried up; then the covering is taken off, and the whole sifted to separate the earth and dirt, and in the sieves is found, what is sent to us under the name

of rough borax; which is in rude irregular masses, but somewhat approaching to a prismatic figure, very foul, earthy and fatish, of a dusky greenish colour, and having a particularly rank and disagreeable smell.

This is afterwards refined for use, by dissolving it several times in large quantities, and crystalizing it while the liquor is hot and kept close covered from the air; and finally, being dissolved in a lixivium of quick-lime and potashes, and crystalized in the same manner, it is what we call refined borax.

It requires two and twenty times its own weight of water to dissolve it perfectly. Exposed to the fire, it swells and blisters, and after it has stood on the fire some time, subsides into a fine white glossy substance, which is with difficulty soluble in water. It vitrifies all earths and stones mixed with it, and exposed to a proper degree of heat; and is of great use in soldering metals, particularly gold. The antients used for this last purpose, a green arenaceous substance, which, from its use, they called *chrysocola*, or gold solder; and the moderns have from this similar use of borax, called it by the same name. See the article *CHRYSOCOLLA*.

Borax makes no effervescence either with acids or alkalies, and yields nothing by distillation but an insipid phlegm. Its use in soldering of gold and other metals, is well known; also in metallurgy, as a flux; in the remelting the small masses of gold and silver that are the produce of assays: for by rubbing it over the vessels these are to be melted in, it fills up all their little cavities, and leaves not the least roughness on the surface, to detain any of the melted metal: it is used by the dyers also, to give a gloss to silks; and, in Italy, the ladies use it as a cosmetic: with us, it is in no small repute as a promoter of the menses and delivery; the powder, kept as a secret by some of our women midwives, being a composition whereof borax is the basis, and the only efficacious medicine. It is also used in making Glauber's salt.

BORBONIA, in botany, a genus of the diadelphia-decandria class of plants, the flower of which is pentapetalous, papilionaceous, and hairy on the outside; the fruit is a roundish acuminate pod, with one cell, containing one seed in the shape of a kidney.

BORBORITES, *borborita*, in church-history,

story, a sect of gnostics, in the second century, who, besides embracing the errors of these heretics, denied the last judgment.

Their name comes from *βορρῆς*, filth, on account of a custom they had of daubing their faces and bodies with dirt and filth.

BORCH, a town of lower Saxony, in Germany, about fourteen miles north-east of Magdeburg; east longitude $12^{\circ} 14'$, north lat. $52^{\circ} 25'$.

BORCHLOEN, or **LOOTS**, a town of the bishopric of Liege, in Germany, about fifteen miles north west of the city of Liege; east longitude $5^{\circ} 30'$, north latitude $50^{\circ} 50'$.

BORDER, in gardening, is made to inclose parterres, that they may not be injured in walking in them.

Borders are made either circular, strait, or in cants; and are turned into knots, scrolls, volutes, and other compartments. They are rendered very ornamental by the flowers, shrubs, yews, &c. that are raised in them. They are always laid with a sharp rising in the middle; because if they are flat, they are no ways agreeable to the eye; and as for their breadth, the largest are allowed five or six feet, and the lesser commonly four. There are four sorts, 1. Those continued about parterres, without any interruption. 2. Those cut into compartments and convenient distances by small passages; these two are raised in the middle, and adorned with flowers and shrubs. 3. Even and flat ones, without flowers. And, 4. Quite plain borders, only sanded, as in parterres of orangery.

BORDER, or **BORDURE**, in heraldry. See the article **BORDURE**.

BORDERS also denote the leaves standing about the middle thrum of a flower.

BORD-FREE. See the article **FREE**.

BORD-HALFPENNY, a small toll, by custom paid to the lord of the town for setting up boards, tables, booths, &c. in fairs and markets.

BORD LANDS, the demesnes which lords keep in their hands for the maintenance of their board or table.

BORD-LODE, a service required of tenants to carry timber out of the woods of the lord to his house. It is also used to signify the quantity of provision which the bordarii or bordmen paid for their bord-lands.

BORD-SERVICE, the tenure of bord-lands, by which some lands in certain places are

held of the bishop of London, and the tenants now pay six-pence *per acre*, in lieu of finding provision antiently for their lord's table.

BORDURE, in heraldry, a cutting off from within the escutcheon all round it about $\frac{1}{3}$ of the field, serving as a difference in a coat of arms, to distinguish families of the same name, or persons bearing the same coat. See plate XXIX. fig. 5.

If the line constituting the bordure be strait, and the bordure be plain, then in blazoning you must only name the colour of the bordure.

Bordures are sometimes ingrailed, gobonated, invicté, &c. See the articles **INGRAILED**, &c.

If the bordure be charged with any part of plants or flowers, the term is verdoxy of trefails, or whatever flower it be. If it consists of ermins, vairy, or any of the furs, they say purflew of ermins, &c. If the bordure be charged with martlets, the word is charged with an enalyron of martlets, &c.

Bordures are symbols of protection, favour and reward, and as such kings bestow them on those they have a value for.

BORE, among engineers, denotes the diameter of the barrel of a gun or cannon, or rather its whole cavity.

Square BORE, among mechanics, a square piece of well-tempered steel, fitted into a handle, serving to widen holes, and make them perfectly round.

BOREA, in natural history, the name whereby the antients called the bluish, green, softer, and dull jasper. See the article **JASPER**.

This stone is generally accounted of the malachites kind, but improperly, as it is much softer than that; and some have imagined the variety of this species to be the turquoise of the moderns, but erroneously. It is considerably heavy, and though but moderately hard, is yet capable of a very elegant polish.

BOREAL, in a general sense, something relating to the north. Thus,

BOREAL SIGNS, in astronomy, are the first six signs of the zodiac, or those northwards of the equinoctial.

Aurora-BOREALIS. See the article **AURORA**.

BOREAS, a Greek name, now in common use for the north wind.

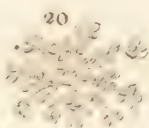
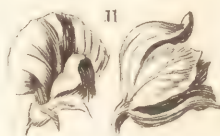
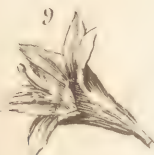
Pezron observes, that antiently boreas signified the north-east wind, blowing at the time of the summer solstice. Boreas is represented in painting like an old man with





TOURNEFORT'S SYSTEM of BOTANY.

CLASSES.



mina, he has arranged the whole family of plants under twenty-four classes, viz.

1. The *monandria*. 2. *Diandria*. 3. *Triandria*. 4. *Tetrandria*. 5. *Pentandria*. 6. *Hexandria*. 7. *Heptandria*. 8. *Octandria*. 9. *Emneandria*. 10. *Decandria*. 11. *Dodecandria*. 12. *Icosandria*. 13. *Polyandria*. 14. *Didynamia*. 15. *Tetradynamia*. 16. *Monadelphbia*. 17. *Diadelphbia*. 18. *Polyadelphbia*. 19. *Syngenesia*. 20. *Gynandria*. 21. *Monœcia*. 22. *Diœcia*. 23. *Polygamia*. 24. *Cryptogamia*. See the articles *MONANDRIA*, *DIANDRIA*, &c.

See plate XXX. where 1. represents class 1; 2, class 2; and so of the rest.

These are the general classes of plants, established by that excellent botanist; who farther subdivides them into orders, which he denominates *monogynia*, *digynia*, *trigynia*, &c. from the number of pistils, or female parts of generation, found in each plant. See the articles *MONOGYNIA*, *DIGYNIA*, *TRIGYNIA*, &c. The same celebrated naturalist has likewise distributed the vegetable part of the creation into different orders, from the form and structure of the calyx, or cup, of their flowers: but as this has no connection with the method laid down, we must refer the reader to his *Genera Plantarum*, where they will find it explained; as also to the article *CALYX*.

Having thus briefly explained the system of Linnæus, we come to that of Tournefort, which is founded on the different structure and disposition, observable in the flowers, or, more strictly speaking, the flower-leaves of plants.

According to Tournefort, therefore, all plants are ranged under one or other of the following classes, viz. 1. Plants with monopetalous, campaniform, or bell-fashioned flowers. 2. Those with monopetalous, infundibuliform, or funnel-like flowers. 3. Plants with anomalous monopetalous flowers. 4. Plants with polypetalous labiated flowers. 5. Plants with polypetalous cruciform flowers. 6. Plants with polypetalous rosaceous flowers. 7. Plants with polypetalous, rosaceous, and umbellated flowers. 8. Plants with caryophyllous, or pink-like flowers. 9. Plants with liliaceous, or lily-like flowers. 10. Plants with polypetalous papilionaceous flowers. 11. Plants with polypetalous anomalous flowers. 12. Plants with flosculus flowers. 13. Plants with semiflosculus flowers.

14. Plants with radiated flowers. 15. Plants with stameneous flowers. 16. Plants without flowers, but having visible seeds. 17. Plants with neither visible flowers nor seeds. 18. Trees with apetalous flowers. 19. Trees with apetalous amentaceous flowers. 20. Trees with monopetalous flowers. 21. Trees with rosaceous flowers. 22. Trees with papilionaceous flowers. The description of each of which see under their several heads *MONOPETALOUS*, *CAMPANIFORM*, &c.

See plate XXXI. where 1 represents class 1; 2, class 2, and so of the rest.

BOTARGO, a kind of sausage, made with the eggs, and blood of the sea-mullet, a large fish, common in the Mediterranean. The best kind comes from Tunis, in Barbary: it must be chosen dry and reddish. The people of Provence use a great deal of it, the common way of eating it being with olive oil and lemon juice. There is also a great consumption of botargo throughout all the Levant. Botargo pays on importation $2\frac{8}{100}$ d. the pound; whereof $2\frac{5}{100}$ d. is repaid on exportation.

BOTE, *bota*, in our old law-books, signifies recompence or amends: thus man-bote, is a compensation for a man slain. There are likewise house-bote and plough-bote privileges to tenants, of cutting wood for making ploughs, repairing tenements, and likewise for fuel.

BOTELESS, or **BOOTLESS**, is when an offender was said to be without emendation, when no favour can acquit him; as in the case of sacrilege.

BOTHNIA, the name of two provinces in Sweden, distinguished by the epithets east and west, and lying on each side the bothnic gulph, which takes its name from them.

BOTTLE, a vessel proper to contain liquors, made of leather, glass, or stone. See the articles *GLASS* and *POTTERY*. There are bottles of boiled leather which are made and sold by the case-makers. Those among the antient Hebrews were generally made of goat-skin, with the hair on the inside, well pitched and sewed together; the mouth of the bottle was through the animal's paw that furnished the matter of it.

There are now in use bottles of fine glass which are commonly covered with ozier, and others of thick glass which are not covered. Formerly all those bottles made

In France held exactly a pint Paris measure, or about a quart of our English wine measure; but since the tavern-keepers sell most of their wine in such bottles, notwithstanding an ordonnance to the contrary, that one would think the glassmakers had entered into an agreement with them, not to make any bottles that hold the full measure, there are none but what hold less, and some considerably so.

In commerce, bottles of earth or stone pay $1\text{r. } 1\frac{5}{8}\text{d.}$ each dozen, on importation; whereof $10\frac{1}{2}\text{d.}$ is repaid on exporting them. Glass bottles covered with wicker, pay $6\text{s. } 7\frac{5}{8}\text{d.}$ the dozen; whereof $6\text{s. } 2\frac{2}{3}\text{d.}$ is repaid on exporting them. Glass bottles covered with leather, pay $1\text{l. } 9\text{s. } 11\frac{1}{2}\text{d.}$ the dozen; whereof $1\text{l. } 7\text{s. } 10\frac{1}{2}\text{d.}$ is repaid on exporting them. Glass bottles uncovered, pay $1\text{s. } 5\frac{3}{4}\text{d.}$ the dozen; $1\text{s. } 4\frac{7}{8}\text{d.}$ being repaid on exporting them. Bottles made of flint glass, pay 2d. for each pound weight; and those made of green glass only 2d. for each pound weight. Bottles made of wood, called sucking bottles, pay by the gross, or twelve dozen, $1\text{s. } 11\frac{1}{2}\text{d.}$; whereof $1\text{s. } 8\frac{2}{3}\text{d.}$ is repaid on exporting them.

BOTTLING of beer. See the article **BEER**.

BOTTOM, in a general sense, denotes the lowest part of a thing, in contradistinction to the top, or uppermost part.

BOTTOM, in navigation, is used to denote as well the channel of rivers and harbours, as the body or hull of a ship: thus, in the former sense, we say, a gravelly bottom, clayey bottom, sandy-bottom, &c. and in the latter sense, a british bottom, a dutch bottom, &c.

By statute, certain commodities imported in foreign bottoms, pay a duty called petty customs, over and above what they are liable to, if imported in british bottoms.

BOTTOMRY, in commerce, a marine contract for the borrowing of money upon the keel or bottom of a ship; that is to say, when the master of a ship binds the ship itself, that if the money be not paid by the time appointed, the creditor shall have the said ship.

BOTTOMRY is also where a person lends money to a merchant, who wants it in traffic, and the lender is to be paid a great sum at the return of the ship, standing

to the hazard of the voyage. On which account, though the interest be greater than what the law commonly allows, yet it is not usury, because the money being furnished at the lender's hazard, if the ship perishes, he shares in the loss.

It is enacted by 19 Geo. II. cap. xxxvii. that after August 1, 1746. every sum of money lent on bottomry, upon the ships of any subjects to or from the East-Indies, shall be lent only on the ship, or the merchandizes laden on board her, and so expressed in the condition of the bond; and the benefit of salvage shall be granted to the lender, his agents, &c. who only shall have a right to make assurance on the money lent; and no borrower of money on bottomry shall recover more on any assurance, than the value of his interest on the ship, or effects, exclusive of the money borrowed. And if the value of his interest doth not amount to the money borrowed, he shall be responsible to the lender for the surplus, with lawful interest for the same, together with the assurance, and all charges whatsoever, &c. notwithstanding the ship and merchandize shall be totally lost.

There is a fictitious way of taking up money, in the nature of bottomry, upon supposition of a ship and master, when, indeed, there is no such ship or master in being; the condition reciting, if that ship (naming her) shall not arrive at such a place, within twelve months, the money agreed on to be paid, shall be paid; but if the ship shall arrive, then nothing is to be paid. This unjustifiable method of raising money is a common practice among the Italians; and, it is to be feared, has been too frequently used by some persons on this side the water.

BOTTOMY. A cross bottony, in heraldry, terminates at each end in three buds, knots, or buttons, resembling, in some measure, the three-leaved grass; on which account Segoin, in his *Treor Heraldique*, terms it *croix tresslee*. It is the badge of the order of St. Maurice. See plate XXXII. fig. 1.

BOTWAR, a town of Wirtemberg, in the circle of Swabia, in Germany, situated about fifteen miles south-east of Hailbron; east longitude $9^{\circ} 15'$, and north latitude 49° .

BOVA, a town of the kingdom of Naples, in Italy, about twenty miles south east of Reggio; east longitude $16^{\circ} 15'$, and north latitude $38^{\circ} 20'$.

BOUCHAIN,

BOUCHAIN, a fortified town of Hainalt, in the french Netherlands, about seven miles north of Cambray ; east longitude $3^{\circ} 15'$, and north latitude $50^{\circ} 30'$.

BOUCHE of court, the privilege of having meat and drink at court, scot-free. This privilege is sometimes only extended to bread, beer, and wine ; and was antiently in use as well in the houses of noblemen as in the king's court.

BOUGH denotes much the same with branch. See the article **BRANCH**.

BOUILLON, a strong town with a castle, about three leagues from Sedan, on the river Semoy : it is capital of a dutchy of the same name, situated between the dutchy of Luxemburg and bishopric of Liege ; east longitude 5° , and north latitude $49^{\circ} 49'$.

BOUILLON, in the manege, a lump or excrescence of flesh, that grows either upon, or just by, the frush, insomuch that the frush shoots out, just like a lump of flesh, and makes the horse halt ; and this we call the flesh blowing upon the frush. Manege horses, that never wet their feet, are subject to these excrescences, which make them very lame.

BOVINO, a small city of the Capitanate, in the kingdom of Naples, about sixty miles east of the city of Naples ; east longit. $16^{\circ} 15'$, and north latit. 41° .

BOULDER-WALL, a kind of wall built of round flints or pebbles, laid in a strong mortar, and used where the sea has a beach cast up, or where there are plenty of flints.

BOULTINE, a term which workmen use for a moulding, the convexity of which is just one fourth of a circle, being the member next below the plinth in the tuscany and doric capital.

BOUNCE, in ichthyology, a name used for the brownish variegated squalus, with the pinna ani in the middle, between the anus and tail. This fish rarely grows to more than three feet in length, and is but moderately thick in proportion. See the article **SQUALUS**.

BOUND MASONRY, **HIDE-BOUND**, **HOOF-BOUND**. See the articles **MASONRY**, **HIDE**, **HOOF**.

BOUNTY, in commerce, a premium paid by the government to the exporters of certain british commodities, as gold and silver lace, silk stockings, fish, corn, &c. the rate of all which will be specified under the articles **LACE**, **FISH**, **CORN**, &c. The happy influence which bounties have

on trade and manufactures is well known : nor can there be a more convincing proof of the good intentions of the government under which we live, than the great care that is taken to give all possible encouragement, to those who shall establish, or improve any hazardous branch of trade.

BOURBON, or **MASCARENHA**, an island in the indian ocean, about one hundred miles east of Madagascar, and subject to France ; east longitude 54° , and south latitude 21° .

BOURBON-ARCHEBAUT, the capital of the dutchy of Bourbon, in the Lyonois, in France ; east longitude $3^{\circ} 10'$, and north latitude $46^{\circ} 35'$.

BOURDEAUX, the capital of all Guienne and Gascony, situated on the river Garonne, in $40'$ west longitude, and $44\frac{1}{2}$ $50'$ north latitude.

BOURG, the capital of the island of Cayenne, a french colony on the coast of Guiana, in south America ; west longitude 52° , and north latitude 5° .

BOURG-EN-BRESS, the capital of Bresse, in the province of Burgundy, in France, thirty-six miles west of Geneva, and thirty-two north of Lyons ; east longitude $5^{\circ} 5'$, and north latitude $46^{\circ} 20'$.

BOURGES, the capital of the territory of Berry, in the Orleanois, in France, situated about fifteen miles south-east of Orleans ; east longitude $2^{\circ} 30'$, and north latitude $47^{\circ} 10'$.

BOURGET, a town of Savoy, six miles north of Chamberry ; east longitude $5^{\circ} 55'$, and north latitude $45^{\circ} 45'$.

BOURIGNONISTS, the name of a sect among the low country protestants, being such as follow the doctrine of Antoinette Bourignon, a native of Lisle, and apostate of the roman catholic religion.

The principles of this sect bear a very near resemblance, with those of the quietists, quakers, or fanatics. They conduct themselves by pretended revelations.

BOURO, an island in the indian ocean, subject to the Dutch ; east longitude 124° , and south latitude $3^{\circ} 30'$.

BOUTANT, or **ARCH-BOUTANT**, in architecture, a flat arch or part of an arch, abutting against the reins of a vault, to prevent its giving way.

A pillar **BOUTANT** is a large chain or pile of stone, made to support a wall, terrace, or vault.

BOUTE, in the manege. A horse is called *bouté*, when his legs are in a straight line from the knee to the coronet : short-jointed

jointed horses are apt to be bouté ; and, on the other hand, long-jointed horses are not.

BOUTON, an island in the indian ocean ; east longitude $121^{\circ} 30'$, and lying between 4° and 5° south latitude.

BOUTS-RIMEZ, in french poetry, a term signifying certain rhymes disposed in order, and given to a poet, together with a subject, to be filled up with verses ending in the same word and same order. In choosing the rhymes, it is usual to fix on such as seem the remotest, and have the least connection. Some authors fancy, that these rhymes are, of all others, the easiest, that they assist the invention, and furnish new thoughts.

BOW, *arcus*, a weapon of offence made of steel, wood, horn, or other elastic matter, which, after being bent by means of a string fastened to its two ends, in returning to its natural state, throws out an arrow with prodigious force.

The use of the bow is, without all doubt, of the earliest antiquity. It has likewise been the most universal of all weapons, having obtained amongst the most barbarous and remote people, who had the least communication with the rest of mankind.

The figure of the bow is pretty much the same in all countries, where it has been used ; for it has generally two inflexions or bendings, between which, in the place where the arrow is drawn, is a right line. The grecian bow was in the shape of a Σ , of which form we meet with many, and generally adorned with gold or silver. The scythian bow was distinguished from the bows of Greece and other nations by its incurvation, which was so great, as to form an half moon or semicircle.

The matter of which bows were made, as well as their size, differed in different countries. The Persians had very great bows made of reeds ; and the Indians had also, not only arrows, but bows made of the reeds or canes of that country ; the lycian bows were made of the cornel tree ; and those of the Æthiopians, which surpassed all others in magnitude, were made of the palm-tree.

Though it does not appear that the Romans made use of bows in the infancy of their republic, yet they afterwards admitted them as hostile weapons, and employed auxiliary archers in all their wars. In drawing the bow, the primitive Grecians did not pull back their hand to-

wards their right ear, according to the fashion of modern ages, and of the ancient Persians, but placing their bow directly before them, returned their hand upon their right breast. This was also the custom of the Amazons.

The bow is a weapon of offence amongst the inhabitants of Asia, Africa, and America, at this day ; and in Europe, before the invention of fire arms, a part of the infantry were armed with bows. Lewis XI. first abolished the use of them in France, introducing, in their place, the halbard, pike, and broad sword. The long bow was formerly in great vogue in England, and many laws were made to encourage the use of it. The parliament under Henry VIII. complained of the disuse of long bows, heretofore the safeguard and defence of this kingdom, and the dread and terror of its enemies.

Bow is also an instrument formerly used at sea for taking the sun's altitude ; consisting of a large arch of ninety degrees graduated, a shank or staff, a shade vane, a sight vane, and an horizon vane. It is now out of use.

Bow, among builders, a beam of wood or brais, with three long screws, that direct a lath of wood or steel to any arch ; chiefly used in drawing draughts of ships, and projections of the sphere ; or wherever it is requisite to draw large arches.

Bow, in music, an instrument, which, being drawn over the strings of a musical instrument, makes it resound. It is composed of a small stick, to which are fastened eighty or an hundred horse hairs, and a screw which serves to give these hairs the proper tension. In order that the bow may touch the strings briskly, it is usual to rub the hairs with rosin.

Bow, among artificers, an instrument so called from its figure ; in use among gunsmiths, locksmiths, watch-makers, &c. for making a drill go. Among turners, it is the name of that pole fixed to the ceiling, to which they fasten the cord that whirls round the piece to be turned.

BOW-STAVES, imported from the british plantations, are free ; if from Ireland, Asia, or Africa, they pay $15s. 4\frac{8}{10}d.$ for every 120 ; and if from any other country, $1l. 2s. 10\frac{8}{10}d.$ for the same number.

Bows of a saddle are two pieces of wood laid archwise to receive the upper part of a horse's back, to give the saddle its due

due form, and to keep it tight. The fore bow, which sustains the pommel, is composed of the withers, the breasts, the points or toes, and the corking. See the article *WITHERS*, &c.

The hind bow bears the troussequin or quilted roll. The bows are covered with finews, that is with bulls pizzles beaten, and so run all over the bows to make them stronger. Then they are strengthened with bands of iron to keep them tight, and on the lower side, are nailed on the saddle straps, with which they make fast the girths.

Bow of a ship, that part of her head which is contained between the stern and the after-part of the fore-castle, on either side; so that a ship hath two bows, the star-board and the larboard, or, as they are sometimes called, the weather and the lee bow.

If a ship have a broad round bow, they call it a bold bow. If she has a narrow thin bow, they say she has a lean bow.

BOW-LINE. See the article *BOWLING*.

BOW-PIECES, are the pieces of ordinance at the bow of a ship.

Rain-Bow. See the article *RAIN-BOW*.

BOW-BEARER, an inferior officer of the forest, who is sworn to make inquisition of all trespasses against vert or venison, and to attack offenders.

BOWE, a market-town of Devonshire, about twelve miles north-west of Exeter: west longitude 4° , and north latitude $50^{\circ} 45'$.

BOWELS, in anatomy, the same with intestines. See the article *INTESTINES*.

BOWER, in gardening, a place under covert of trees, differing only from an arbour, as being round or square, and made with a kind of dome or ceiling at top; whereas the arbour is always built long and arched.

BOWER, in the sea-language, the name of an anchor carried at the bow of a ship. There are generally two bowers, called first and second, great and little, or best and small bower. See the article *ANCHOR*.

Lady's-BOWER, or *Virgin's BOWER*, in botany, the english name of the clematis. See the article *CLEMATIS*.

BOWL denotes either a ball of wood, for the use of bowling; or a vessel of capacity, wherein to hold liquors.

Bowls and buckets of wood, imported, pay a duty of $9\frac{1}{2}$ d. the dozen; whereof $8\frac{1}{2}$ d. is repaid on exporting them.

BOWLING, the art of playing at bowls:

The first thing to be observed in bowling is, the right chusing your bowl, which must be suitable to the ground you design to run on. Thus, for close alleys, the flat bowl is the best; for open grounds of advantage, the round byassed bowl; and for plain and level swards, the bowl that is as round as a ball. The next is to chuse your ground; and lastly to distinguish the risings, fallings, and advantages of the places where you bowl.

BOWLING, or *BOW-LINE*, in a ship, a rope made fast to the leech or middle part of the outside of the sail: it is fastened by two, three or four ropes, like a crow's foot, to as many parts of the sail; only the mizen bowling is fastened to the lower end of the yard. This rope belongs to all sails, except the sprit-sail and sprit-top-sail. The use of the bowling is to make the sails stand sharp or close, or by a wind.

Sharp the bowling, is hale it taught, or pull it hard. Hale up the bowling, that is pull it harder forward on. Check or ease, or run up the bowling, that is let it be more slack.

BOWLING-BRIDLES are the ropes by which the bowling is fastened to the leech of the sail.

BOWLING-KNOT, a knot that will not slip, by which the bowling-bridle is fastened to the crengles.

BOWLING-GREEN, a kind of parterre, laid with fine turf, designed for the exercise of bowling. See *BOWLING*.

BOWSE, in the sea-language, signifies as much as to hale or pull. Thus bowling upon a tack, is haling upon a tack. Bowse away, that is pull away all together.

BOW-SPRIT, or *BOLT-SPRIT*, a kind of mast, resting sloopwise on the head of the main stem, and having its lower end fastened to the partners of the fore-mast, and farther supported by the fore-stay. It carries the sprit-sail, sprit-top-sail, and jak-staff; and its length is usually the same with that of the fore-mast.

BOWYERS, artificers, whose employment or occupation it is to make bows.

There is a company of bowyers in the city of London, first incorporated in 1623.

BOX, in its most common acceptation, denotes a small chest or coffer for holding things.

Fire-boxes or tinder-boxes pay, on importation, a duty of 3 s. 10 $\frac{2}{3}$ d. the gross; whereof 3 s. 4 $\frac{1}{2}$ d. is repaid on exportation. Wooden money-boxes pay

3 s. 7 $\frac{3}{4}$ d. the gross; whereof 3 s. 2 $\frac{3}{4}$ d. is repaid on exportation. Nest-boxes pay 11 s. 6 $\frac{6}{10}$ d. the gross; whereof 10 s. 1 $\frac{1}{2}$ d. is repaid. Pepper-boxes pay 4 s. 3 $\frac{2}{10}$ d. whereof 3 s. 1 $\frac{8}{10}$ d. is repaid. French-boxes, for marmalade or jelly, pay each dozen 3 s. 1 $\frac{8}{10}$ d. whereof 1 s. 9 $\frac{7}{10}$ d. is repaid. Sand-boxes pay 3 s. 10 $\frac{2}{10}$ d. the gross; whereof 3 s. 4 $\frac{1}{2}$ d. is repaid. Snuff-boxes; if of wood, pay 2 s. 4 $\frac{7}{10}$ d. the dozen; whereof 2 s. 1 $\frac{8}{10}$ d. is repaid: if of horn, they pay 4 s. 9 $\frac{4}{10}$ d. the dozen; 4 s. 3 $\frac{7}{10}$ d. being drawn back: if of ivory or tortoise-shell, they pay 9 s. 6 $\frac{9}{10}$ d. the dozen; whereof 8 s. 7 $\frac{1}{2}$ d. is drawn back. Soap-boxes pay 7 s. 8 $\frac{4}{10}$ d. the shock, containing sixty boxes. Spice-boxes pay 1 s. 1 $\frac{8}{10}$ d. the dozen. Tobacco-boxes pay 5 s. 9 $\frac{3}{10}$ d. the gross. Touch-boxes, covered with leather, pay only 6 $\frac{1}{10}$ d. the dozen; but if the leather be the most valuable part, they pay 6 s. 11 $\frac{3}{10}$ d. for every 20 s. value upon oath: if covered with velvet, they pay 2 s. 10 $\frac{6}{10}$ d. the dozen: and if of iron, or other metal gilt, they pay 3 s. 10 $\frac{2}{10}$ d. the dozen: in all which cases, a proportionable draw-back is allowed.

Box is also used for an uncertain quantity or measure: thus a box of quick-silver contains from one to two hundred weight; a box of prunella, only fourteen pounds; a box of rings for keys, two gross, &c.

Box of a plough, the cross piece in the head of a plough, which supports the two crow-staves. See the article **Plough**.

Box, or **Box-tree**, in botany, the english name of the *buxus*. See **BUXUS**.

The turner, engraver, carver, mathematical instrument, comb, and pipe makers, give a great price for this wood by weight, as well as by measure. It makes wheels or shivers, pins for blocks and pullies, pegs for musical instruments, nut-crackers, weaver's shuttles, collar-sticks, bump-sticks and dressers for shoemakers, rulers, rolling-pins, pestles, mall-balls, beetles, tops, tallies, chess-men, screws, bobbins, cups, spoons, and the strongest of all axle-trees.

BOXERS, a kind of athlete, who combat or contend for victory with their fists, and amount to the same with what, among the Romans, were called *pugiles*.

The antient boxers battled with great force and fury, insomuch as to dash out

each other's teeth, break bones, and often kill each other. The strange disfigurements these boxers underwent were such, that frequently they could not be known, and rendered them the object of many raileries. In the Greek anthology, there are four epigrams of the poet Lucilius, and one of Lucian; wherein their disfigurements are pleasantly enough exposed.

BOXING, the exercise of fighting with the fists, either naked, or with a stone or leaden ball grasped in them: in which sense, boxing coincides with the *πυγμαχία* of the Greeks, the *pugillatus* of the Romans, and what, on our amphitheatres, is sometimes called trial of manhood. When the champions had *σφαίραι*, or balls, whether of lead or stone, it was properly denominated *σφαίρμαχία*.

The antient boxing differed from the *pugna castium*, in which the combatants had leathern thongs on their hands, and balls to offend their antagonists; though this distinction is frequently overlooked, and fighting with the *castus* ranked as a part of the business of pugiles: in which view, we may distinguish three species of boxing; the first, where both the hands and the head were absolutely naked, as is practised among us; the second, where the hands were armed with spheræ, but the head naked; the third, where the head was armed with a kind of cap or cover, called *ambotides*, chiefly to defend the ears and temples, and the hands also furnished with castules. Boxing is an antient exercise, having been in use in the heroic times, before the invention of iron or weapons. Those who prepared themselves for it, used all the means that could be contrived to render themselves fat and fleshy, that they might be better able to endure blows; whence corpulent men or women were usually called *pugiles*, according to Terence; *Siqua est habitior paulo, pugilem esse aiunt*.

BOXING, among sailors, is used to denote the rehearsing the several points of the compass in their proper order.

BOXING is also used for the tapping of a tree, to make it yield its juice. See the articles **BLEEDING**, **SAP**, &c.

The boxing of maple is performed by making a hole with an ax or chissel into the side of the tree, about a foot from the ground; out of it flows a liquor from which sugar is made.

BOXTEL, a town of dutch Brabant, situated on the river Bommel, about eight miles

miles south of Boisselac, in east longitude $5^{\circ} 16'$, and north latitude $51^{\circ} 30'$.

BOXTHUDE, a town of the dutchy of Bremen, in Germany, about fifteen miles west of Hamburg, subject to the elector of Hanover: east long. $9^{\circ} 16'$, and north latitude $53^{\circ} 50'$.

BOYAR, a term used for a grandee of Russia and Transylvania.

Becman says, that the boyars are the upper nobility; and adds, that the czar of Muscovy, in his diplomas, names the boyars before the way-wodes. See the article **WAY-WODE**.

BOYAU, in fortification, a ditch covered with a parapet, which serves as a communication between two trenches. It runs parallel to the works of the body of the place, and serves as a line of contravallation, not only to hinder the sallies of the besieged, but also to secure the miners. But when it is a particular cut that runs from the trenches to cover some spot of ground, it is drawn so as not to be enfiladed, or scoured by the shot from the town.

BOYES, idolatrous priests among the savages of Florida.

Every priest attends a particular idol, and the natives address themselves to the priest of that idol, to which they intend to pay their devotion.

The idol is invoked in hymns, and his usual offering is the smoke of tobacco.

BOYLE'S LECTURES, a course of sermons set on foot, in London, by the honourable Robert Boyle in 1691; the design of which is to prove the truth of the christian religion against infidels, without descending to any controversies among christians.

BOYNE, a river of Ireland, which taking its rise in Queen's county, in the province of Leinster, runs north-east by Trim and Cavan, and falls into the irish channel, a little below Drogheda.

B QUADRO, QUADRATO, or DURALE, in music, called by the French *b quarre*, from its figure H . This is what we call

B natural or sharp, in distinction to **B mol** or flat. See **FLATS** and **SHARP**.

If the flat \flat be placed before a note in the thorough bass, it intimates, that its third is to be minor; and if placed with any cypher over a note in the bass, as $\flat 6$, or $\flat 5$, &c. it denotes, that the fifth or sixth thereto are to be flat. But if the quadro H be placed over any note, or with a cypher, in the thorough bass,

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it has the contrary effect; for thereby the note or interval thereto is raised to its natural order.

BRABANT, a large province of the Netherlands, lying eastward of Flanders: the greater part of it is subject to the house of Austria, the capital Brussels; and the rest to the Dutch, their capital Breda.

BRABEJUM, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which consists of four linear obtuse petals in the lower part erect, and forming a kind of tube; in the upper turned backward. The fruit is a drupe of the drier kind, of an oval figure and hairy: the kernel is oval.

BRABEUTES, or **BRABEUTA**, *Βραβευτης*, in antiquity, an officer among the Greeks, who presided at the public games, and decided controversies that happened among the antagonists in the gymnical exercises. The number of brabeutes was not fixed: sometimes there was only one, but more commonly they amounted to nine or ten.

BRACCIANO, a town of St. Peter's patrimony, about twelve miles north of Rome, situated on the west side of a lake, to which it gives name: east longitude 13° , and north latitude 42° .

BRACE is commonly taken for a couple or pair, and applied by hunters to several beasts of game, as a brace of bucks, foxes, hares, &c.

BRACE, in architecture, a piece of timber framed in with bevil joints, the use of which is to keep the building from swerving either way. When the brace is framed into the king-pieces or principal rafters, it is by some called a strut.

BRACES, in the sea-language, are ropes belonging to all the yards of a ship, except the mizen, two to each yard, reeved through blocks that are fastened to penants, seized to the yard-arms. Their use is either to square, or traverse the yards. Hence to brace the yard, is to bring it to either side. All braces come astward on, as the main brace comes to the poop, the main-top-sail brace comes to the mizen-top, and thence to the main shrouds: the fore and fore-top-sail braces come down by the main and main-top-sail stays, and so of the rest. But the mizen-bowline serves to brace to the yard, and the cross-jack braces are brought forwards to the main-shrouds when the ship sails close by a wind.

A a a

BRACED,

BRACED, in heraldry, a term for the intermingling three chevrons. See plate XXXII. fig. 2.

BRACELET, an ornament worn on the wrist, much used among the antients: it was made of different materials, and in different fashions, according to the age and quality of the wearer.

Bracelets are still worn by the savages of Africa, who are so excessively fond of them, as to give the richest commodities, and even their fathers, wives, and children, in exchange for those made of no richer materials than shells, glass, beads, and the like.

Bracelets of glass pay 3 s. 8 $\frac{1}{4}$ d. the small gross, containing twelve bundles or dickers; and, if of the french manufacture, they pay 4 s. 1 $\frac{2}{3}$ d. for the same quantity: a proportionable drawback is allowed in each case.

BRACHIÆUS, in anatomy, a name given to two muscles, which are flexors of the cubitus, and distinguished by the appellations of *externus* and *internus*.

The *brachiæus externus* rises tendinous with two heads; one of them, which is broader, has its origin from the coracoid process; the other, which is slender and longer, from the acetabulum of the scapula. This descends in the channel of the humerus under the ligament of the joint, becomes fleshy, and joins with the former; and after this, runs near the insertion of the deltoides in the anterior part of the arm, and ends partly by a round tendon, in the tubercle of the radius, a little below its upper head, and partly by a round tendon, in the common membrane, which surrounds all the muscles of the cubitus. This tendon is sometimes cut in bleeding, and very bad consequences attend the accident.

The *brachiæus internus* arises just below the end of the deltoides, and is inserted in the tubercle of the ulna, a little below its upper head.

BRACHIAL, in a general sense, denotes something belonging to the arm. See the article *ARM*.

BRACHIAL-NERVE. See the article *NERVE*.

BRACHIALIS is particularly used for a thick and broad muscle of the arm, lying between the shoulder-bone and the elbow; its fore-part being covered all the way by the two fleshy bodies of the biceps. See the article *BICEPS*.

BRACHIONUS, in zoology, the name given by Dr. Hill, to a genus of animal-

cules, called, in english, wheel-animals. See *WHEEL-ANIMALS*.

BRACHIUM, *ARM*, in anatomy, one of the superior extremities of the human body, comprehending the scapula, the os humeri, the cubit, and the hand. See the articles *SCAPULA*, *ARM*, &c.

BRACHMANS, a sect of indian philosophers, known to the antient Greeks by the name of gymnosophists. The antient brachmans lived upon herbs and pulse, and abstained from every thing that had life in it. They lived in solitude without matrimony, and without property; and they wished ardently for death, considering life only as a burden. The modern brachmans make up one of the casts or tribes of the banians. They are the priests of that people, and perform their office of praying and reading the law, with several mimical gestures, and a kind of quavering voice. They believe, that, in the beginning, nothing but God and the water existed, and that the supreme being, desirous to create the world, caused the leaf of a tree, in the shape of a child playing with its great toe in its mouth, to float on the water. From its navel there issued out a flower, whence Brama drew his original, who was intrusted by God with the creation of the world, and presides over it with an absolute sway. They make no distinction between the souls of men and brutes, but say the dignity of the human soul consists in being placed in a better body, and having more room to display its faculties. They allow of rewards and punishments after this life; and have so great a veneration for cows, that they look on themselves as blessed, if they can but die with the tail of one of them in their hand. They have preserved some noble fragments of the knowledge of the antient brachmans. They are skilful arithmeticians, and calculate, with great exactness, eclipses of the sun and moon. They are remarkable for their religious austerities. One of them has been known to make a vow, to wear about his neck a heavy collar of iron for a considerable time: another to chain himself by the foot to a tree, with a firm resolution to die in that place: and another to walk in wooden shoes stuck full of nails on the inside. Their divine worship consists chiefly of processions, made in honour of their deities. They have a college at Bauara, a city seated on the Ganges.

BRA-

BRACHURUS, the name of a genus of animalcules, with tails shorter than their bodies, and no visible limbs.

BRACHYGRAPHY, the art of short-hand-writing. See **TACHYGRAPHY**.

In England we have various methods of short-hand, and those easier, speedier, and more commodious, than are known in any other part of the world, witness Webster's, Weston's, MacAulay's, and several other short-hands.

BRACHYPYRENIA, in the history of fossils, a genus of *septariae*, with a short roundish nucleus. * See **SEPTARIÆ**.

BRACHYTELOSTYLA, in natural history, the name by which Dr. Hill calls those crystals, which are composed of a short hexangular column, terminated at each end by an hexangular pyramid. See the article **CRYSTAL**.

BRACKET, among carpenters, &c. a kind of wooden stay, serving to support shelves, and the like.

BRACKETS, in a ship, the small knees, serving to support the galleries, and commonly carved. Also the timbers that support the gratings in the head, are called brackets.

BRACKETS, in gunnery, are the cheeks of the carriage of a mortar: they are made of strong planks of wood, of almost a semicircular figure, and bound round with thick iron plates; they are fixed to the beds by four bolts, which are called bed-bolts; they rise up on each side of the mortar, and serve to keep her at any elevation, by means of some strong iron bolts, called bracket-bolts, which go through these cheeks or brackets.

BRACKLAW, the capital of the palatinate of Bracklaw, in Podolia, in Poland, situated on the river Bog, an hundred and ten miles east of Kaminec: east long. $29^{\circ} 20'$, and north lat. 48° .

BRACKLEY, a borough town of Northamptonshire, about fifteen miles south-west of Northampton: west longitude $1^{\circ} 15'$, and north latitude 52° .

It sends two members to parliament.

BRACTEA, in natural history, denotes a spangle, or thin flake of any substance.

BRACTEA, in botany, denotes the floral leaf.

BRACTEARIA, in natural history, a genus of talcs, composed of small plates in form of spangles, each plate being either very thin, or fissile into very thin ones.

Of this genus there are a great many species, called, from their different colours,

mica aurea, or gold-glimmer; and *mica argentea*, silver-glimmer, or cat's-silver, &c.

BRAD, in geography, a town of Slavonia, situated on the north side of the river Save, eighteen miles south of Pofega; east longitude $18^{\circ} 40'$, and north latitude $45^{\circ} 20'$.

BRADFIELD, a market-town in Essex, fourteen miles north of Chelmsford; east long. $30'$, and north lat. $51^{\circ} 54'$.

BRADFORD, a market-town in Wiltshire, about nine miles west of the Devizes: east longitude $2^{\circ} 40'$, and north latitude $51^{\circ} 20'$.

BRADFORTH, a market-town of Yorkshire, thirty miles south-west of York: west long. $1^{\circ} 35'$, and north lat. $53^{\circ} 40'$.

BRADNICH, a market-town of Devonshire, ten miles north of Exeter: west long. $3^{\circ} 35'$, and north lat. $50^{\circ} 45'$.

BRADS, among artificers, a kind of nails used in building, which have no spreading head, as other nails have. They are distinguished, by ironmongers, by six names, as joiner's-brads, flooring-brads, batten-brads, bill-brads, or quarter-heads, &c. Joiner's-brads are for hard wain-scot, batten brads for soft wain-scot; bill-brads are used when a floor is laid in haste, or for shallow joists subject to warp. See the article **NAILS**.

BRADYPUS, in zoology, a genus of quadrupeds, of the order of the anthropomorpha of Linnæus, otherwise called *ignavus*, and in english the sloath; the characters of which are, that its feet have no great toe, and are made for climbing. See the article **ANTHROPOMORPHA**.

Of this genus there are two species. 1. The american sloath, with a short tail, and only three toes on each foot. 2. The ceylon sloath, with only two toes on each foot, and no tail. See the article **SLOATH**.

BRAG, an ingenious and pleasant game at cards, wherein as many may partake as the cards will supply; the eldest hand dealing three to each person at one time, and turning up the last card all round. This done, each gamester puts down three stakes, one for each card. The first stake is won by the best card turned up in the dealing round; beginning from the ace, king, queen, knave, and so downwards. When cards of the same value are turned up to two or more of the gamesters, the eldest hand gains; but it is to be observed, that the ace of diamonds wins, to whatever hand it be turned up.

The second stake is won by what is called the brag, which consists in one of the gamesters challenging the rest to produce cards equal to his: now it is to be observed, that a pair of aces is the best brag, a pair of kings the next, and so on; and a pair of any sort wins the stake from the most valuable single card. In this part consists the great diversion of the game; for, by the artful management of the looks, gestures, and voice, it frequently happens, that a pair of fives, treys, or even duces, out-brags a much higher pair, and even some pairs royal, to the no small meriment of the company. The knave of clubs is here a principal favourite, making a pair with any other card in hand, and with any other two cards a pair royal.

The third stake is won by the person, who first makes up the cards in his hand one and thirty; each dignified card going for ten, and drawing from the pack, as usual in this game.

BRAGA, the capital of the province of Entre-minho-duro, in Portugal, situated on the river Cavado, thirty-two miles north of Porto: west longitude $8^{\circ} 40'$, and north latitude $41^{\circ} 20'$.

BRAGANZA, a city of the province of Tralafmontes, in Portugal, situated on the river Sabor, in 7° west longitude, and $41^{\circ} 50'$ north latitude.

BRAGGOT, a kind of drink made of malt, honey, and spices, much used in Wales.

BRAIL, or **BRAILS**, in a ship, are small ropes made use of to furl the sails across: they belong only to the two courses and the mizen-sail; they are reeved through the blocks, seized on each side the ties, and come down before the sail, being at the very skirt thereof fastened to the cringles; their use is, when the sail is furled across, to hale up its bunt, that it may the more easily be taken up or let fall. Hale up the brails, or brail up the sail, that is, hale up the sail, in order to be furled or bound close to the yard.

BRAYLOW, a town of Podolia, in Poland, situated on the river Bog, forty miles north of Bracklaw; east longitude 29° , and north latitude $48^{\circ} 50'$.

BRAIN, in anatomy, that soft white mass inclosed in the cranium or skull, in which all the organs of sense terminate, and the soul is supposed principally to reside.

The brain is surrounded by three membranes, called meninges and matres;

these are the dura mater, the arachnoides, and the pia mater. See the article **DURA MATER**, &c.

The general mass is divided into three parts or portions, the cerebrum, or brain properly so called, the cerebellum, and the medulla oblongata; to these three parts, contained with the cranium, some add a fourth, viz. the medulla spinalis, which is a continuation of the medulla oblongata. See **CEREBELLUM**, &c.

The cerebrum, or brain properly so called, is a mass of a moderate consistence, and of a greyish colour on the outer surface; the upper part is of an oval figure: it is flatter on the lower part, each lateral half of which is divided into three eminences, called lobes; one anterior, one middle, and one posterior. It is divided into two hemispheres, by means of the processus falciformis of the dura mater, and these again are divided into the anterior and posterior lobes, between which there is a large inferior protuberance that goes by the same name; so that, in each hemisphere, there are three lobes; one anterior, one middle, and one posterior. Each lateral portion of the cerebrum has three sides; one superior, which is convex; one inferior, which is uneven; and one lateral, which is flat, and turned towards the falx: through the whole surface of these three sides, we see inequalities or windings, like the circumvolutions of the intestines, formed by waving streaks or furrows, very deep and narrow, into which the septa of the pia mater insinuate themselves.

The human brain is, in general, so large as to weigh about four pounds. It is three times as much, in quantity, as the brain of an ox. Its substance, on cutting a part of it, is found to be of two kinds; the exterior, or cortical part; and the interior, or medullary part. The cortical part of the brain is about a sixth of an inch in thickness; the structure of the interior part is fibrous, and tubular. This last has its origin from the extremely small arteries of the exterior or cortical part: and its termination is the beginning of the nerves: it is somewhat harder than the cortical part.

In taking the brain carefully out of the skull, there are distinguished, in the lower part of the medulla oblongata, the nerves of the brain, which are commonly said to be ten pair, though, in reality, only nine; they are, for the sake of memory, reduced

reduced into the form of two latin verses:
Ossacens, cernens, oculosque movens,
patiensque,
Gustans, abducens, audiensque, vagansque,
loquensque.

Remarkable parts of the BRAIN. The most remarkable parts of the brain are, 1. The corpus callosum, which appears between the two hemispheres of the cerebrum. 2. The ventricles of the brain, in the examination of which we are to observe the septum lucidum, the fornix, the plexus choroideus, the corpora striata, and the thalami nervorum opticorum. 3. The nates and testes; and under these the valvula magna cerebri and the aqueduct of Sylvius. For the description of each of which, see the article CORPUS CALLOSUM, &c.

Vessels of the BRAIN. These are, besides the arteries, veins, and investient membranes, the pituitary gland, the rete mirabile, &c. See the articles PITUITARY GLAND, and RETE MIRABILE.

The uses of the brain, in general, are, 1. To be of the utmost importance and assistance to the animal functions. 2. To secrete the animal spirits, and to transmit them to the nerves, for the necessities of sensation and motion.

The cerebrum is supposed to be particularly constructed for the secretion of the animal; the cerebellum, for the vital and natural spirits. The particular uses to which the several parts of the brain are defined, are wholly unknown.

BRAIN LE COMPTE, a town of Hainalt, in the Austrian Netherlands, fifteen miles south-east of Brussels, and nine north-east of Mons: east longitude 4°, and north latitude 50° 40'.

BRAINTREE, a market-town of Essex, twelve miles north of Chelmsford: east longitude 35', and north lat. 51° 50'.

BRAKE denotes female fern, or the place where it grows: also a sharp bit or snaffle for horses; and a baker's kneading trough: also an instrument with teeth, to bruise flax or hemp.

BRAKEL, a town of the bishopric of Paderborn, in the circle of Westphalia, in Germany: east longitude 9°, and north latitude 51° 40'.

BRAMA, the **BREAM**, in ichthyology, the name of a fresh-water fish, called by authors the cyprinus, with all its fins black, and twenty-seven bones in the pinna ani. See plate XXXII, fig. 4. and the article CYPRINUS.

BRAMANT, a town of Savoy, thirty-

five miles north-west of Turin; east long. 6° 45', and north lat. 45°.

BRAMBER, a borough-town of Suffex, about sixteen miles south-east of Grinstead: west long. 15', and north latitude 50° 50'.

It sends two members to parliament.

BRAMBLE, or **BRAMBLE-BUSH**, in botany, the english name of the rubus of authors. See the article RUBUS.

BRAMBLE-NET, otherwise called hallier, is a net to catch birds in, of several sizes; the great meshes must be four inches square; those of the least size are three or four inches square; and those of the biggest five. In the depth, they should not be above three or four inches; but as for the length, they may be enlarged at pleasure; the shortest being eighteen feet long.

BRAMBLE, or **BRAMBLING**, in ornithology, the english name of a bird, called by authors montifringilla. See the article MONTIFRINGILLA.

BRAMINS, the name of the priests among the idolatrous Indians; the successors of the antient brachmans. See the article BRACHMANS.

BRAMPORE, a town of the hither peninsula of India: east longitude 77°, and north latitude 21° 30'.

BRAMPTON, a market-town of Cumberland, about six miles north-east of Carlisle: west longitude 2° 40', and north latitude 54° 50'.

BRAMYARD, a market-town of Herefordshire, about twelve miles north-east of Hereford: west longitude 2° 30', and north latitude 52° 20'.

BRAN, the skins or husks of corn, especially wheat ground, separated from the flour by a sieve or boulder.

It is of wheat-bran that starch-makers make their starch. The dyers reckon bran among the non-colouring drugs, and use it for making, what they call, the four waters, with which they prepare their several dyes.

Bran, being of a porous spongy substance, is used; in pharmacy, as a suppurative and digestive medicine. In the composition of a cataplasm, the warmth of the part it is applied to, so rarefies the bran, that, being kept from the external air, all, that can transpire, will be sucked up into its interstices. However, it should be applied, where there is good probability of the matter's transpiring; otherwise it will draw more to the part, and thereby increase the malady.

BRANCH,

BRANCH, in botany, an arm of a tree, or a part, which, sprouting out from the trunk, helps to form the head or crown thereof.

As branches have their outward parts common with the chief stem, so, in like manner, do their inward consist of a multitude of tubes, which are also provided with a number of small glands, veins, and muscles interpersed here and there, where the sap, coming from the first canal, is rendered much more delicate.

Branches are distinguished into various kinds: 1. Wood-branches, which are those that form the shape of the tree, and are to be pruned from four to twelve inches, according to the vigour of the tree. 2. Fruit-branches, which are slenderer than the wood-branches, and have their eyes near to one another and large, by which the fruit-buds are formed. If they are too long, they are to be topped; but if they are of a just length, they are to be preserved, only just cutting off the extremity. 3. Branch-half-wood, that which, being too slender for a wood-branch, and too big for a fruit-branch, is cut off at the length of two or three inches, to make it produce a better shoot, whether wood or fruit. 4. Irregular branches, which are small and confused. They must be cut off, because they are neither fit for wood nor fruit. 5. Branches of false-wood. These are such as grow upon the true wood branches, and have flat eyes at a distance one from another; for which reason they are useless, and therefore must be cut off. 6. Luxuriant branches, which are such as shoot out from the large wood-branches. These are as taper and as big about as one's finger, the back being smooth and even, and having broad eyes at a distance from one another. These must all be cut off.

7. Spurious wood-branches, such as come contrary to the order of nature; or otherwise than from the cuts of the preceding year, or which, coming on such cuts, are big in the place where they should be small.

The distinguishing marks of good branches are, that the eyes, in the whole extent, be thick, well fed, and very close one to another. The good strong branches are employed in producing yearly, on their extremities, other new branches, some strong and others weak. The good weak branches are, such as are well placed, and, being of a mean thickness and length, may be able to produce, speedily, beautiful and good fruit.

The distinguishing marks of bad branches are, when, in the lower part, the eyes are flat, ill fed, and hardly formed, and at a large distance one from another.

BRANCH is likewise a term used in genealogy and anatomy. Thus we say, the branch of a family, the branch of an artery, the branch of a vein.

BRANCHES of a bridle, in the manege, are two pieces of iron bended, which, in the interval, between the one and the other, bear the bit-mouth, the cross-chains, and the curb; so that on one end they answer to the head-stall, and on the other to the reins, in order to keep the horse's head in subjection. With regard to their form and structure, branches are either straight, in form of a pistol, for young horses to form their mouth; or, after the constable of France's fashion, proper for a horse that carries his head well. Some are in form of a gigot or leg, which will prevent horses from carrying too low: some in form of a bent knee, contrived for horses that arm themselves against the operation of the bit; and others after the french fashion, which is hardly about $\frac{1}{3}$ of an inch at the sevil hole, and kneed $1\frac{1}{4}$ inch at the jarret or ham.

It is to be observed, 1. That the farther the branch is from an horse's neck, the more effect it will have. 2. That short branches *ceteris paribus* are ruder, and their effects more sudden, than those of longer. 3. That the branch is to be proportioned to the length of a horse's neck; and one may sooner err in chusing one too short than too long.

BRANCHES of ogives, in architecture, are the arches of gothic vaults. These arches traversing from one angle to another diagonal wise, form a cross between the other arches, which make the sides of the square, of which the arches are diagonals.

BRANCH of a trench. See **BOYAU**.

BRANCH of a mine. See **GALLERY**.

BRANCHERY, in the anatomy of plants, denotes the ramifications of the succiferous vessels dispersed through the parenchyma, or pulpy part of fruits.

The main branches are usually twenty in number; one half, or fifteen, being distributed over the parenchyma, and the rest, running from the stalk in a straight line, meet the former at the cork or shoot of the flower: to these last the coats of the kernels are fastened.

BRANCHIÆ, GILLS, in the anatomy of fishes, the parts corresponding to the lungs of land animals, by which fishes take

take in and throw out again a certain quantity of water, impregnated with air. All fishes, except the cetaceous ones and the petromyzum, are furnished with these organs of respiration; which are always eight in number, four on each side the throat. That next the heart is always the least, the rest increasing in order as they stand near the head of the fish.

Each of these gills is composed of a bony lamina, in form of a semicircle, for the most part; and on its convex side stand the leaves or lamellæ, like so many sickles. The whole convex part of the lamellæ is beset with hairs, which are longest near the base, and decrease gradually as they approach towards the point. There are also hairs on the concave side of the lamellæ, but shorter than the others, and continued only to its middle.

The convex side of one lamina, is fitted into the concave side of the next superior one; and all of them are connected together by means of a membrane, which reaches from their base half way their height, where it grows thicker, and in some measure resembles a rope. The rest of the lamina is free, and terminates in a very fine and flexible point.

As to the use of these gills, they seem to be designed to receive the blood protruded from the heart into the aorta, and convey it into the extremities of the lamellæ; from whence being returned by veins, it is distributed over the body of the fish.

BRANCHIARUM FORAMINA, *apertures of the gills*. In most fishes there is only one aperture; in the cartilaginous ones, these apertures are ten in number, five on each side; and in the petromyzon or lamprey, there are no less than fourteen of these apertures, seven on each side.

As to the cetaceous fishes, they have no aperture of this kind; and the reason seems to be, because they are furnished with lungs.

BRANCHIDÆ, in grecian antiquity, priests of the temple of Apollo, which was at Didymus in Ionia, a province of lesser Asia, towards the Ægean sea, upon the frontiers of Caria. They opened to Xerxes the temple of Apollo, the riches whereof he took away. After which, thinking it unsafe to stay in Greece, they fled to Sogdiana, on the other side of the Caspian sea, upon the frontiers of Persia, where they built a city, called by their own name: but they did not escape the punishment of their crime: for

Alexander the great having conquered Darius, king of Persia, and being informed of their treachery, put them all to the sword, and razed their city, thus punishing the impiety of the fathers in their posterity.

BRANCHIOSTEGI, in ichthyology, one of the five general orders of fishes, whereof the rays of the fins are indeed bony, like those of the malacopterygii and acanthopterygii; from which, however, they are distinguished by having no bones, or osculæ, in the branchiæ or gills.

Of this order there are only four genera, *viz.* the balistes, ostracion, cyclopterus, and lophius. See **BALISTES**, &c.

BRANCHON, a town of the Austrian Netherlands, about eight miles north of Namur; east longitude $4^{\circ} 50'$, and north latitude $50^{\circ} 32'$.

BRANCHUS, *βραγχος*, a defluxion of humours upon the fauces, being a species of catarrh. See the article **CATARRH**.

BRAND-HERRING, a kind of herring caught by the Dutch. It pays no duty of importation in Holland; and for exportation, it pays two livres and ten stivers *per* last of 12 tuns, according to the new book of rates made in Holland in the year 1725.

BRANDEIS, a town of Bohemia, situated on the river Elbe; ten miles north-east of Prague: east longitude $14^{\circ} 25'$, north latitude $50^{\circ} 15'$.

BRANDENBURG, a city of the marquissate of Brandenburg, in Germany, situated on the river Havel, twenty-six miles west of Berlin: east longitude 13° , north latitude $52^{\circ} 25'$.

It was once the capital of Brandenburg; but is now on the decline, since Berlin supplanted it.

BRANDON, a market town of Suffolk, ten miles north of Bury: east longitude $45'$, north latitude $52^{\circ} 30'$.

It gives the title of duke to his grace the duke of Hamilton.

BRANDY, a spirituous and inflammable liquor, extracted from wine and other liquors, by distillation, which is most commonly performed by the *balneum marie*; but sometimes also by a small flaming fire. See **DISTILLATION**.

The vessels used in this operation, are commonly of copper; some distillers, in order to cool the brandy, make the neck of the matras, which is very long, and of a serpentine or winding figure, pass through a tun of cold water.

In order to distil brandy, they fill the cucurbi

cucurbit half full with the liquor they would extract it from, which they put over a moderate fire, till about the sixth part of it be distilled, or till they perceive that which falls into the recipient, is no longer inflammable. Brandy distilled a second time, is called spirit of wine; and this spirit, purified again by one or by several distillations, is what they call spirit of wine rectified. The second distillation is made in the *balneum marie*, and in a glass cucurbit, till the brandy that was put into it be reduced into one half, and this half is again rectified, as often as the operator thinks proper. To try the goodness of the rectified spirit of wine, you must examine whether, when lighted into a blaze, it consumes entirely, without leaving any impurity behind: or rather, which is surer still, whether, having put some gunpowder at the bottom of the spirit you would try, the powder takes fire, when the spirit is consumed; in which case, the spirit is good. With regard to brandy (we speak only of that which is distilled from wine) they who trade in it, chuse it white, clear, of a good taste, and such as will bear the test or proof; that is to say, that when poured into a glass, it forms on the top of it a little white lather, which, as it diminishes, makes a circle; there being no brandy but that which is well deslegmated, and does not retain too much humidity, wherein this bead-proof, as it is called, will be entirely formed.

The chief use of brandy is as a drink, particularly in the northern countries, among the negroes of Guinea, who will sell one another for some bottles of brandy, and among the savages of Canada, who are extremely fond of it, but to whom the French are forbidden to give any, under very severe penalties: brandy is also used in medicine, to strengthen the nerves; and in dying, rectified spirits of wine being reckoned by the dyers among the non-colouring drugs.

Method of colouring BRANDY. All brandies, when first made, are as clear as water, and do grow higher coloured by long keeping; however, they are artfully made of any colour several ways. To make a light straw-colour, use turmeric, or a little treacle: but the best way is to give it a colour or tincture with a little burnt sugar, made to a consistence; or syrup of elder-berries may be used, which gives an admirable colour, and may be made deeper or lighter, ac-

cording to the quantity you put in.

Besides the brandy made of wine, there is some also made of beer, cyder, syrups, sugar, molasses, fruit, grain, &c. however, these are not properly called brandy; but go under the general denomination of spirits, which see; see also the articles RUM, RACK, &c.

Wine brandy made in France, is esteemed the best in Europe. They make it wherever they make wine, and for that purpose, use wine that is pricked, rather than good wine. The chief brandies for foreign trade, and those accounted best, are the brandies of Bourdeaux, Rochelle, Cogniac, Charenton, the isle of Rhé, Orleans, the country of Blaisois, Poitou, Touraine, Anjou, Nantes, Burgundy, and Champaign.

BRASIDIA, an anniversary solemnity at Sparta, in memory of Brasidas, a lacedæmonean captain, famous for his achievements at Methone, Pylos, and Amphipolis. It was celebrated with sacrifices and games, wherein none were permitted to contend, but free-born Spartans. Whoever neglected to be present at the solemnity, was fined.

BRASIL, or **BRAZIL**, a large maritime country of South America, lying between 35° and 60° west longitude, and between the equator and 35° south latitude.

It is bounded by the Atlantic ocean and the river Amazon on the north, by the same ocean on the east, by the river of Plate on the south, and by Paraguay on the west; being computed to be 2500 miles in length, and 700 miles in breadth. The Portuguese have now the sole dominion of this extensive country, where besides sugar and tobacco, there are rich mines of gold and diamonds; from whence his Portuguese majesty draws a very considerable revenue.

BRASIL-WOOD, or **BRAZIL-WOOD**, an american wood of a red colour, and very heavy. It is denominated variously, according to the places from whence it is brought: thus we have brasil from Fernambuco, Japan, Lamon, &c.

The brasil-tree ordinarily grows in dry barren places, and even in the clefts of rocks: it is very thick and large, usually crooked and knotty: its flowers, which are of a beautiful red, exhale a very agreeable smell, which strengthens the brain. Though the tree be very thick, it is covered with so gross a bark, that when the savages have taken it off, the wood or trunk, which was before the thick-

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ness of a man, is scarce left equal to that of his leg.

This wood must be chosen in thick pieces, close, found, without any bark on it, and such as, upon splitting, of pale becomes reddish, and, when chewed, has a saccharine taste. It is much used in turned work, and takes a good polish: but its chief use is in dying, where it serves for a red colour: it is a spurious colour, however, that it gives, and easily evaporates and fades; nor is the wood to be used without alum and tartar. From the brafil of Fernambuco, is drawn a kind of carmine, by means of acids: there is also a liquid lacca made of it, for miniature.

This tree has many distinctions among botanists; but it is agreed on by all to be a species of the laurels, and possessed of the same physical virtues; tho' it is seldom or ever prescribed by physicians.

BRASLAW, the capital of a palatinate of the same name, in the province of Lithuania in Poland: east longitude 26° , north latitude $56^{\circ} 20'$.

BRASS, or as the French call it, yellow copper, is a factitious metal, made of copper and lapis calaminaris.

The method of preparing it is as follows: the lapis, having been calcined and ground fine as flour, is mixed with fine charcoal, and incorporated, by means of water, into a mass: this being done, about seven pounds of lapis calaminaris is put into a melting pot, that will contain about a gallon, and over that about five pounds of copper; this pot is let down into a wind-furnace, where it remains for eleven hours, in which time it is converted into brass. The metal then is cast, either into plates or lumps; forty-five pounds of crude lapis calaminaris, will produce thirty pounds when calcined or burnt. Sometimes brass-shruff is used instead of copper: but that is not always to be procured in quantities sufficient, it being no other than a collection of old brass.

Pure brass is not malleable, unless when it is hot; for when it is cold it will break; and after it has been melted twice, it will be no longer in a condition to bear the hammer at all: but in order to render it capable of being wrought, they put seven pounds of lead to an hundred weight of brass, which renders it more soft and pliable.

Brass, manufactured into any kind of

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utensils, pays duty on importation $3\text{T}^{\text{R}}\text{S}^{\text{D}}$.
the pound; whereof $3\text{T}^{\text{R}}\text{S}^{\text{D}}$. is repaid on
exportation of the same goods.

The best proportion for brass guns, is said to be a thousand pounds of copper, nine hundred pounds of tin, and six hundred pounds of brass, in eleven or twelve thousand weight of metal.

The best brals guns are made of malleable metal, not of pure copper and calamine alone; but worse metals are used to make it run closer and sounder, as lead, and pot-metal. See CANNON.

Corinthian Brass has been famous in antiquity, and is a mixture of gold, silver, and copper. L. Mummius having sacked and burnt the city of Corinth, 146 years before Christ, it is said this metal was formed from the immense quantities of gold, silver and copper wherewith that city abounded, thus melted and run together by the violence of the conflagration.

BRASS-COLOUR, one prepared by the braziers and colourmen to imitate brass. There are two sorts of it, the red brass, or bronze, and the yellow or gilt brass: the latter is made only of copper-filings, the smallest and brightest that can be found; with the former they mix some red ochre, finely pulverized: they are both used with varnish.

BRASSE, in ichthyology, the english name of the lucioperca, or pale, spotted perch, with two long teeth on each side. See the article LUCIOPERCA.

BRASSICA; CABBAGE, in botany, a genus of the tetradynamia-filiquosa class of plants; the flower of which is cruciform, consisting of four petals, almost of the same length with the cup. The fruit is a bivalve pod, containing globose seeds. See the article CABBAGE.

BRAUNSBURG, a town of Prussia, situated on the Baltic sea, about thirty miles south-west of Königsburg; east long. 20° , north lat. $54^{\circ} 15'$.

BRAVO, one of the Cape-verd islands :
west long. 25° , north lat. 14° .

BRAURONIA, in grecian antiquity, a festival in honour of Diana, surnamed brauronia, from its having been observed at Brauron, an athenian village.

This festival was celebrated once in five years, being managed by ten men, called *seporesci*. The victim offered in sacrifice was a goat, and it was customary for certain men to sing one of Homer's *Iliads*. The most remarkable persons at this solemnity were young virgins, from

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five to ten years of age, habited in yellow, and consecrated to Diana.

BRAWN, the flesh of a boar souced or pickled: for which end the boar should be old; because the older he is, the more horny will the brawn be.

The method of preparing brawn, is as follows: the boar being killed, it is the flitches only, without the legs, that are made brawn; the bones of which are to be taken out, and then the flesh sprinkled with salt, and laid in a tray, that the blood may drain off: then it is to be salted a little, and rolled up as hard as possible. The length of the collar of brawn, should be as much as one side of the boar will bear; so that when rolled up, it be nine or ten inches diameter.

The collar being thus rolled up, is to be boiled in a copper, or large kettle, till it is so tender, that you can run a straw through it: then set it by, till it is thorough cold, and put it into the following pickle. To every gallon of water, put a handful or two of salt, and as much wheat bran: boil them together, then drain the bran as clear as you can from the liquor; and when the liquor is quite cold, put the brawn into it.

BRAY, a town of Champaign in France, about sixteen miles north of Sens: east long. $3^{\circ} 20'$, north lat. $48^{\circ} 25'$.

BRAY is also the name of a port town of the county of Wicklow, and province of Leinster, in Ireland: west long. $6^{\circ} 16'$, north lat. $53^{\circ} 12'$.

BRAZIER, an artificer who makes or deals in all kinds of brass-ware. See **BRASS**.

BRAZIL or **BRASIL**. See **BRASIL**.

BRAZING, the soldering or joining two pieces of iron together by means of thin plates of brais, melted between the pieces that are to be joined. If the work be very fine, as when two leaves of a broken saw are to be brazed together, they cover it with pulverized borax, melted with water, that it may incorporate with the brais powder, which is added to it: the piece is then exposed to the fire without touching the coals, and heated till the brais is seen to run.

Brazing is also used for the joining two pieces of iron together by beating them hot, the one upon the other, which is used for large pieces by farriers, &c.

BRAZZA, a town and island on the coast of Dalmatia, in the gulph of Venice: east longitude 18° , north latitude 43° .

BREACH, in fortification, a gap made in any part of the works of a town by the

cannon or mines of the besiegers, in order to make an attack upon the place. To make the attack more difficult, the besieged sow the breach with crow-feet, or stop it with chevaux de frize.

A practicable breach, is that where the men may mount and make a lodgment, and ought to be fifteen or twenty fathoms wide. The besiegers make their way to it, by covering themselves with gabions, earth-bags, &c.

BREACH, in a legal sense, is where a person breaks through the condition of a bond or covenant, on an action upon which, the breach must be assigned: and this assignment must not be general, but particular, as in an action of covenant for not repairing houses, it ought to be assigned particularly what is the want of reparation; and in such certain manner, that the defendant may take an issue.

Pound BREACH. See the article **POUND**.

BREAD, *panis*, a mass of dough, kneaded and baked in an oven. See the article **BAKING**.

Bread ought to be well kneaded and seasoned with a little salt, otherwise it is accounted very unwholesome.

We find bread sometimes made of rye, oats, barley, or vetch-flour; but of all others, that prepared from wheat affords the most wholesome nourishment. In several parts of Asia, Africa, and America, they make bread of maize-flour; besides which, the americans make bread of the cassava-root.

Some are of opinion, that corn growing in gravelly and light lands, makes better bread than that which grows in deep and low grounds.

As to the assize of bread, the mayors of cities and other corporations, or two justices of the peace, have power to settle it; and bakers trespassing against it, forfeit 5s. per ounce for every ounce wanting, and 2s. 6d. for less than an ounce.

French-BREAD. To make good french-bread, for every two quarts of flour, add six spoonfuls of ale-yeast; also milk and water, warmed; a bit of butter, and a little salt: make them pretty light, and letting them rise before the fire, bake them in a quick oven.

Some put the yolks of six eggs, and the whites of two to this quantity; but others think the bread better without them.

Foreign bread, or bisket, pays duty on importation 1s. 7⁵/₁₀₀ d. for every 112lb. whereof 1s. 5³/₄ d. is repaid on exporting it again.

BREAD.

BREAD-ROOM, in a ship, that destined to hold the bread, or bisket.

The boards of the bread-room should be well joined and caulked, and even lined with tin plates, or mats. It is also proper to warm it well with charcoal, for several days before the bisket is put into it; since nothing is more injurious to the bread than moisture. See **BISKET**.

BREAD, in the scripture stile, is taken for every sort of food: the ancient Hebrews had several ways of baking bread, as baking it under the ashes, between two fires made of cow-dung, and in an oven. The Jews had, besides their leavened and unleavened bread, their shew-bread, bread of affliction, &c.

BREADTH, in geometry, one of the three dimensions of bodies, which multiplied into their length, constitutes a surface. See the article **SURFACE**.

BREAK, in a general sense, signifies to divide a thing into several parts with violence.

In the art of war, to break ground, is to open the trenches before a place. See the article **TRENCHES**.

Among sportmen, to break a horse in trotting, is to make him light upon the hand in trotting, in order to make him fit for a gallop. To break a horse for hunting, is to supple him, to make him take the habit of running.

BREAKING, in a mercantile stile, denotes the not paying one's bills of exchange, accepted, or other promissory notes, when due; and absconding, to avoid the severity of one's creditors. In which sense, breaking is the same thing with becoming bankrupt. See **BANKRUPT**.

BREAKING BULK, in the sea-language, is the same with unlading part of the cargo.

BREAM, *brama*, in ichthyology. See the article **BRAMA**.

This fish is easily taken; for after two or three gentle turns, it falls on its side, and may be drawn to land with ease.

The best time of angling for bream, is from St. James's day till Bartholomew-tide, as being then exceeding fat; and the most proper bait, is the largest red garden worms that can be got.

BREAST, *pectus*, in anatomy, denotes the fore-part of the thorax. See the article **THORAX**.

BREASTS, *mammæ*, two glandulous tumours, of a roundish oval figure, situated on the anterior, and a little towards the lateral parts of the thorax: these are

most remarkable in women; and in order to their being an ornament, they should be of a moderate size, their skin should be white and soft, their substance firm, not flaccid or pendulous, and the nipple red; they should also stand at a considerable distance. In different persons, however, their size is very various and uncertain. In virgins, they are usually small: in women with child, or who give suck, they are larger, often very enormous. In very young, and very old persons, they are always small. The time of the breasts growing full, in women, is about the age of fourteen; and the most natural time of their decreasing, is about the fiftieth year. The nipple of the human breast is a tumid, cylindrical body, of a red colour, placed on the middle of the breast, and surrounded with a circle: its substance is cavernous, almost like that of the human penis; and hence it is capable of erection. See the article **NIPPLES**. The breasts, besides the common integuments of the body, *viz.* the epidermis, cutis, and fat, are composed of a glandulous substance, of a whitish colour, not unlike that of the udders in quadrupeds. This forms the inner or central part, to the midst of which the nipple answers; and is surrounded by a quantity of fat, which makes by much the greater part of the breast.

Among this glandulous substance are found, beside the blood-vessels, a multitude of lactiferous ducts, or small tubes, which unite by frequent anastomoses; these tubes are larger in women who give suck, and are dilated into sinuses in many places, forming a kind of cells, which hold the secreted milk, and communicate with the veins and arteries. All these parts are to be seen much more distinctly in breasts that are large and full of milk, than in others; in young women, indeed, they are scarce to be distinguished at all; as also in such as have little breasts, in such as are emaciated, and in those of very old people.

The arteries and veins of the breasts are called mammary vessels, and are sent from the subclavian and axillary vessels. The former of these are called the internal, and the other the external ones. The nerves are from the dorsal ones of the spinal marrow.

Swelling breasts, especially if there be milk found in them, is generally judged a mark of the loss of virginity, and a proof

that a woman has been with child ; tho', it is said, it does not hold univerſally. See the article VIRGINITY.

The ſwelling of the breasts during the time of geſtation, is owing to the conſent between the breasts and the uterus ; there being ſo near a communication between the mammary veſſels, and the hypogaſtric veſſels of the womb, that a dilatation in the latter is attended with a ſimilar one in the former. See the articles UTERUS, PREGNANCY, &c.

The breasts, eſpecially after delivery, are liable to divers diſeaſes ; as inflammations, excoriations, indurations, tumefactions, nodes, abſceſſes, ſchirrhuses, and cancers ; to which may be added, certain peculiar diſorders, as the ſparganoſis, ſtrangalides, and gynæcomatton.

Uſes of the BREASTS are, 1. To ſecrete the milk in their glandulous ſubſtance, from the arterial blood, and to collect it in their ſinues and tubuli lactiferi, to be diſcharged, at a proper time, by the nipple, for the nourishment of the infant. 2. To add to the peculiar beauty of the female. 3. To add a ſtimulus to venery on both ſides, while they are handled and preſſed. As to the uſe of the nipples, they are evidently for giving ſuck to the infant, who, without them, could ſcarce poſſibly get at it.

BREAST-PLATE, in antiquity, a piece of armour worn to defend the breast, originally believed to be made of hides, or hemp twiſted into ſmall cords, but afterwards made of braſs, iron, or other metals, which were ſometimes ſo exquisitely hardened, as to be proof againſt the greateſt force.

BREAST PLATE, in the manege, the ſtrap of leather that runs from one ſide of the ſaddle to the other, over the horſe's breast, in order to keep the ſaddle tight, and hinder it from ſliding backwards.

BREAST PLOUGH, one ſo fashioned that a man may ſhove it before him.

BREAST-WORK, the ſame with parapet. See the article PARAPET.

BREATH, the air inſpired and expelled again in the action of reſpiration. See the article RESPIRATION.

BREATH, or **WIND**, in the manege, ſometimes ſignifies the eaſy reſpiration of an horſe, and ſometimes it implies the eaſe and reſt or repoſe of a horſe ; as give your horſe breath, that is, do not ride him down ; give that leaping horſe a long breathing time between the turns, or repetitions of his manege, &c.

BREATHING, the ſame with reſpiration. See the article RESPIRATION.

Difficulty of BREATHING, in medicine. See the article ASTHMA.

BRECHIN, a borough-town of the county of Angus in Scotland, about fifteen miles north-eaſt of Dundee : weſt long. $2^{\circ} 20'$, north lat. $56^{\circ} 40'$.

BRECON, or **BRECKNOCK**, a borough-town of Brecknockſhire, in Wales ; weſt longitude $3^{\circ} 25'$, north latitude 52° .

BREDA, the capital of dutch Brabant, about thirty miles north-eaſt of Antwerp ; eaſt longitude $4^{\circ} 40'$, north lat. $51^{\circ} 40'$.

It is a ſtrong fortified town.

BREECHES, a kind of cloſe garment or covering for the thighs, hips, &c. worn by the modern Europeans.

The breeches are peculiar to the male ſex, and answer, in ſome meaſure, to the femoralia of the Romans.

BREECH of a great gun, or cannon, the end next the touch-hole.

BREECHINGS, in the ſea-language, the ropes with which the great guns are laſhed, or faſtened to the ſhip's ſide.

They are thus called, becauſe made to paſs round the breech of the gun.

BREEDING, in a moral ſenſe, denotes a perſon's deportment or behaviour in the external offices and decorums of ſocial life. In this ſenſe, we ſay, well-bred, ill bred, a man of breeding, &c. Good breeding is hard to be defined ; and none can underſtand the ſpeculation, but thoſe who have the practice. Good breeding amounts to much the ſame with what is otherwiſe called politeneſs, and, among the ancient Romans, urbanity. Good breeding is near to virtue, and will of itſelf lead a man a great part of the way towards the ſame ; it teaches him to rejoice in acts of civility, to ſeek out objects of compaſſion, and be pleaſed with every occaſion of doing good offices. Lord Shaftesbury compares the well-bred man with the real philoſopher ; both characters aim at what is excellent, aſpire to a juſt taſte, and carry in view the model of what is beautiful and becoming. The conduct and manners of the one is formed according to the moſt perfect eaſe and good entertainment of company ; of the other, according to the ſtrictest intereſt of mankind ; the one according to his rank and quality in his private ſtation ; the other, according to his rank and dignity in nature. Horace ſeems to have united both characters,

Quid

*Quid verum atque decens curo & rogo,
& omnis in hoc sum.*

BREEDING of horses. To raise a good and beautiful race of horses, it is requisite to choose for a stallion a fine barb, free from hereditary infirmities, such as weak eyes, bad feet, spavins, purfiness, &c. He should, three months before the time he is to cover, be fed with sound oats, pease, or beans, or with coarse bread, and little hay, but a good deal of wheat straw, leading him out twice a day to water; and after he has drank, walking him up and down an hour, without making him sweat. He should be admitted to mares according to his strength; that is, let him have twelve or fifteen, or at most twenty. Mares go with foal eleven months, and as many days as they are years old: so a mare should be covered, that her foal may be brought forth at a time when there will be plenty of good grass.

About the end of May, you shall put your mares into an inclosure capable of feeding them the whole time the stallion is to be with them: all the mares are put together, as well the barren as others. Lead forth your stallion, after having taken off his hind shoes, then let him cover one twice in hand; after which turn him loose to the rest. In this inclosure there should be built a little lodge, into which the stallion may retire from the heat; and in the lodge, a manger, wherein you are to give him oats, beans, &c. and he must always be thus entertained while he is with the mares, which will be about six or seven weeks. You must take care that the stallion and the mare have the same food. Mares which are very gross, hold with much difficulty: but those that are indifferently fat and plump, conceive with greater ease.

To bring a mare in season, and make her retain, let her eat, eight days before she is brought to the horse, about two quarts of hemp-seed in the morning, and as much at night, as to the age of the stallion, he should not cover before he is six, nor after he is fifteen. On the other hand, the mares should not be covered before they are three years old.

BREEDING of milk. When a cow chanceth to have a calf, and is poor, or to calve before her time, and has not milk enough to keep her calf, she must have a good deal of masses of malt given her lukewarm; also every morning and evening

a quart of ale made into a posset, whose curd take off, and put into it aniseed, cummin, lettuce, and coriander-seeds, all made into powder; mingle them with the posset, and let them stand three hours together; then give it the cow for four days successively; and by often drawing of her paps, her milk will be sure to increase in a short time.

BREEMING, in sea-language, denotes the burning off the weeds, filth, &c. which a ship contracts under water, with furze, faggots, or reeds, before her bottom is caulked and graved; and is to be done when in the dock, on the careen, or on the ground ashore.

BREEZE, a shifting wind, that blows from sea or land for some certain hours in the day or night; common in Africa, and some parts of the East and West Indies.

The sea breeze is only sensible near the coasts; it commonly rises in the morning, about nine, proceeding slowly in a fine small black curl on the water, towards the shore; it increases gradually till twelve, and dies, about five. Upon its ceasing, the land-breeze commences, which increases till twelve at night, and is succeeded in the morning by the sea-breeze again.

BREEZE, in brick-making, small ashes and cinders, sometimes made use of instead of coals, for the burning of bricks: but as this does not so well answer the end, the use of it is prohibited by 12 Geo. I. cap. xxxv.

BREEZE is also the name of an insect, called the gad-fly, or horse fly. See the article GAD-FLY.

BREGENTS, or **BERGENTS**, a town situated at the east-end of the lake of Constance, in the county of Tyrol, in Germany; east long. 9° 40', and north latitude 47° 36'.

BREGMA, in anatomy, the same with sinciput. See the article SINCIPUT.

The bregma consists of two bones, which are bones of the cranium, called ossa parietalia.

BREMEN, the capital of the dutchy of the same name, in lower Saxony, situated on the river Weser, in 8° 20' east longitude, and 53° 25' north latitude.

This city and dutchy belongs to the king of Great Britain, as elector of Hanover.

BREMERVHOIDE, a fortified town of the dutchy of Bremen, about seventeen miles north of Bremen; east longitude 8° 35', and north latitude 53° 48'.

BREMGARTEN, a town of Switzerland, in

in the county of Baden, about twelve miles west of Zurich; east longitude $8^{\circ} 15'$, and north latitude $47^{\circ} 20'$.

BRENT, in geography, a market town of Devonshire, situated twenty-seven miles south-west of Exeter; west longitude $4^{\circ} 7'$, and north latitude $50^{\circ} 30'$.

BRENT-GOOSE, a species of goose with a black neck and a white collar round; usually confounded with the barnacle, though in reality a distinct species.

It is a little larger than the common duck, and is described by authors under the name of *anas torquata*.

BRENTFORD, a market-town of Middlesex, about seven miles west of London: west longit. $7'$, and north lat. $51^{\circ} 26'$.

BRENTWOOD, or **BURNTWOOD**, a market-town of Essex, about fifteen miles east of London; east longitude $15'$, and north latitude $51^{\circ} 35'$.

BRESCIA, a city of Italy, about thirty miles north of Cremona; east longitude $10^{\circ} 35'$, and north latitude $45^{\circ} 30'$. It is a bishop's see, and subject to Venice.

BRESELLO, a town of the duchy of Modena, in Italy, situated on the southern shore of the river Po, about twenty-five miles north-west of Modena; east longitude 11° , and north latitude $44^{\circ} 46'$.

BRESICATE, in commerce, a kind of bays, of which there is some trade carried on with the negroes, between the river Gambia and Sierra Leone. The best sorts for that purpose are the blue and the red.

BRESLAW, the capital of Silesia, situated upon the river Oder, in $16^{\circ} 50'$ east longitude, and $51^{\circ} 15'$ north latitude.

BRESSE, a territory of Burgundy, in France: it is bounded by Franche Compté on the north, by Savoy on the east, by Dauphine on the south, and by the Lyons on the west.

BRESSVIRE, a town of Poitou, in the Orleanois in France, situated about thirty-five miles north-west of Poitiers; west longitude $30'$, and north latitude $46^{\circ} 50'$.

BREST, in geography, an excellent port-town of Brittany, in France; west longitude $4^{\circ} 30'$, and north latitude $48^{\circ} 25'$.

BREST, or **BREAST**, in architecture, a term sometimes used for the member of a column, more usually called *tore*. See the article **TORE**.

BREST-SUMMERS, in timber buildings, are pieces in the outward parts thereof, into which the girders are framed: this, in the

ground-floor, is called a cell; and, in the garret floor a beam.

As to their size, it is the same with that of girders. See the article **GIRDERS**.

BRESTE, or **BRESSICI**, the capital of the palatinate of Bressici, and of Polesia, in Poland, situated on the river Bog, about eighty miles east of Warsaw; east longitude 24° , and north latitude 52° .

BRETESSE, in heraldry, denotes a line embattled on both sides. See the article **EMBATTLED**.

BRETON, or **CAPE-BRETON**, an american island, separated from New-Scotland by a narrow freight, called Canso: it is about one hundred miles in length, and fifty in breadth, and is situated between 61° and 62° west longitude, and between 45° and 48° north latitude.

BRETEUIL, a town of Normandy, in France, about thirty-five miles south of Rouen; east longitude 1° , and north latitude $48^{\circ} 50'$.

BREVE, in law, is any writ directed to the chancellor, judges, sheriffs, or other officers, whereby a person is summoned, or attached, to answer in the king's courts, &c.

BREVE PERQUIRERE, the purchasing of a writ or license for trial in the king's courts: whence comes the present usage of paying 6s. 8d. fine to the king in suit, for money due on bond, where the debt is 40l. and of 10s. where it is 100l. &c.

BREVE DE RECTO is a writ of right, or license, for a person ejected to sue for the possession of the estate detained from him.

BREVE, in music, a note or character of time, in the form of a diamond, or square, without any tail, and equivalent to two measures, or minims.

BREVE, or **BREVIS**, in grammar: syllables are distinguished into longs and breves, according as they are pronounced quicker, or more slow. See the article **QUANTITY**.

BREVET, in the french customs, denotes the grant of some favour, or donation from the king, in which sense it partly answers to our warrant, and partly to letters patent.

BREVIARY, a daily office, or book of divine service, in the romish church. It is composed of matins, lauds, first, third, sixth, and ninth, vespers, and the compline, or post communio.

The breviary of Rome is general, and may

may be used in all places: but on the model of this, various others have been built, appropriated to each diocese, and each order of religious.

The breviary of the Greeks is the same in almost all churches and monasteries that follow the greek rites: the Greeks divide the psalter into twenty parts. In general the greek breviary consists of two parts, the one containing the office for the evening the other that of the morning, divided into matins, lauds, first, third, sixth, and ninth, vespers, and the compline: that is, of seven different hours, on account of that saying of David, *septies in die laudem dixi tibi*.

The institution of the breviary is not very antient: there have been inserted in it the lives of the saints, full of ridiculous and ill attested stories, which gave occasion to several reformatiions of it, by several councils, particularly those of Trent and Cologn; by several popes, particularly Pius V. Clement VIII. and Urban VIII. also by several cardinals and bishops, each lopping off some extravagances, and bringing it nearer to the simplicity of the primitive offices.

Originally every body was obliged to recite the breviary every day; but by degrees the obligation was reduced to the clergy only, who are enjoined under penalty of mortal sin and ecclesiastical censures, to recite it at home, when they cannot attend in public. In the XIVth century there was a particular reserve granted in favour of bishops, who were allowed, on extraordinary occasions, to pass three days without rehearsing the breviary. This office was originally called *curfus*, and afterwards the *breviarium*; which latter name imports, that the old office was abridged, or rather, that this collection is a kind of abridgment of all the prayers.

The breviaries now in use are innumerable: the difference between them consists principally in the number and order of the psalms, hymns, pater noster's, ave Mary's, creeds, magnificat's, cantemus's, benedictus's, canticamus's, nunc dimittis's, miserere's, halleluja's, gloria patri's, &c.

BREVIARY, *breviarium*, in roman antiquity, a book first introduced by Augustus, containing an account of the application of the public money.

BREVIATOR, an officer under the eastern empire, whose business it was to write and translate briefs.

At Rome those are still called *breviators*, or *abbreviators*, who distate and draw up the pope's briefs. See the article **ABBREVIATOR**.

BREVIBUS A ROTULIS LIBERANDIS, a writ or command to a sheriff, to deliver to his successor, the county, with the appurtenances, and the rolls, writs, and other things to his office belonging.

BREVIER, among printers, a small kind of type, or letter, between nonpareil and bourgeois.

BREVIS, in anatomy, an appellation given to several muscles, on account of their shortness. Thus,

BREVIS CUBITI, in anatomy, is a muscle that rises from the superior and posterior part of the humerus, and by joining its fleshy fibres with the *brachizus externus* and *longus*, and becoming tendinous, covers the elbow, and is inserted into the olecranium, to extend the arm.

BREVIS RADII, a muscle which comes from the external and upper part of the ulna, and passing round the radius, is inserted into its upper and fore part, below the tendon of the biceps: this and the *longus radii* are called the *supinators*, their office being to turn the palm upwards.

BREVIS PALMARIS lies under the aponeurosis of the *palmaris*, and arises from the bone of the metacarpus, that sustains the little finger, and from that bone of the carpus which lies above the rest: it goes transversely, and is inserted into the eighth bone of the carpus: it assists in making the palm of the hand concave.

BREVITY, in matters of style, is a perfection of discourse, whereby all superfluous words are rejected, and only such as are absolutely necessary used. However, as brevity is apt to degenerate into obscurity, it is a less fault to say too much than too little.

BREVIUM CUSTOS. See **CUSTOS**.

BREVIUM FALSO RETORNO. See **FALSO**.

BREVORDT, a town of Guelderland, in the united Netherlands, situated about twenty-five miles south-east of Zutphen, in 6° 34' east long. and 52° north lat.

BREWER, a person who professes the art of brewing.

There are companies of brewers in most capital cities: that of London was incorporated in 1427, by Hen. VI. and that of Paris is still older.

BREWER'S-HAVEN, a good harbour at the north-end of the island at Chiloe, on the coast of Chili, in South America; west longitude 82°, and south latitude 42°.

BREW-

BREW-HOUSE, a place for brewing. See the next article.

It should be so situated that the smoke may not be an annoyance to any of the apartments of the dwelling-house; the furnace should be made close and hollow, for saving the fire, and giving vent for the passage of the smoke, that the liquor may not be tainted thereby. A copper is better than a leaden boiler. The mash-fat should be placed near to the head of the cooler, and the cooler near to the mash-fat, and the guile-fat under the cooler; and adjoining to them all, several clean tubs, to receive the worts and liquors.

BREWING, the operation of preparing ale, or beer, from malt. The usual process of brewing is as follows: the ingredients being ready, the water must be made to boil very speedily, and while boiling with the greatest violence, the fire must be immediately damped, or put out; when the height of the steam is over, the water is put into the mashing tub, to wet the malt; then so much being poured out, as to make it of a consistence stiff enough to be rowed up, let it stand thus a quarter of an hour, after which another quantity of the water is added, and rowed up as before; at last the full quantity of water is poured upon it, and that in proportion as the liquor is intended to be strong or weak: this part of the operation is called mashing. Afterwards the whole may be left to stand two or three hours, more or less, according to the strength of the wort, or the difference of the weather; then let it run into the receiver, and mash again for a second wort, in the same manner as for the first, only the water must be cooler, and must not stand above half the time.

The two worts being mixed together, the quantity of hops that is designed may be added thereto, and the liquor put into the copper, which being closely covered up, let it boil gently for the space of an hour or two; then let the liquor into the receiver, and the hops strained from it into the coolers.

When cool, the barm is applied; which done, it is left to work, or ferment, till it be fit to tun up.

For small beer there must be a third mashing; the water must be near cold, and to stand not above three quarters of an hour; to be hopped and boiled at discretion.

For double ale, or beer, the two liquors

coming from the two first mashings must be used as liquor for a third mashing of fresh malt. For fine ale, the liquor thus brewed is farther prepared with molasses: instead of yeast, or barm, some use castile soap, others flour and eggs, others an essential oil of barley, others a quintessence of malt, others of wine, and others the sal panaritius.

In ordering vessels for the preservation of beer, they must not at one time be scalded, and at another washed with cold water: some rub the vessels with hop-leaves, that come out of the wort, and so rinse them again; then being dried in the air, and headed, they take a long piece of canvas, and dipping it in brimstone, make matches thereof, and with a few coriander-seeds, set fire thereto: others opening the bung, let the match burn in the vessel, keeping in as much as they can of the sulphurous fume, by laying the bung lightly on, and when the match is burnt, they stop all close for a little time; then being opened, and coming to the air, the cask is found to be as sweet as a violet.

BREY, a town of the bishopric of Liege, in Germany, about sixteen miles north of Maestricht; east longitude $5^{\circ} 40'$, and north latitude $51^{\circ} 15'$.

BREYNIA, in botany, a genus of the polyandria-monogynia class of plants, whose corolla consists of four oval patent petals, and is somewhat larger than the cup: the fruit is a very long, fleshy, clavated soft pod, formed of two valves, and containing only one cell: the seeds are numerous, kidney-shaped, fleshy, and arranged longitudinally, in the pod.

BRIANCON, a town of Dauphiny, in France, situated about forty-five miles south-east of Grenoble; east longitude $6^{\circ} 20'$, and north latitude $44^{\circ} 50'$.

BRIAR, or **BRIAR-BUSH**, the wild rose, with large hairy fruit. See **ROSE**.

BRIARE, a town of the isle of France, situated on the river Loire, about seventy-five miles south of Paris; east long. $2^{\circ} 45'$, and north latitude $47^{\circ} 40'$.

BRIBE, a gift given a person for doing or forbearing any action, that he ought to do or forbear. See the next article.

BRIBERY, in common law, is when a person in judicial places, takes a gift or reward of any person who has business before him, for his doing his office, or by colour of his office, except the king only, unless it be meat and drink.

Bribery, in judicial or ministerial officers,

is punished by fine and imprisonment, and the loss of office; and in a judge it is deemed so heinous, that antiently it was punished as treason. Judges servants are punishable for receiving bribes: and if any judge refuses a bribe offered him, the person that offered it may be punished. Officers of the customs taking any bribe, whereby the crown may be defrauded, forfeit root. Candidates that bribe electors, after the test of writs of election, &c. are disabled to serve in parliament; as are likewise such electors, to vote, and to hold any office, and shall forfeit 500*l.* &c.

BRICIANI, those of the order of that name. This was a military order, instituted by St. Bridget, queen of Sweden, who gave them the rules and constitutions of those of Malta and St. Augustin. This order was approved by pope Urban V. They were to fight for the burying of the dead, to relieve and assist widows, orphans, the lame, sick, &c.

BRICK, a fat reddish earth, formed into long squares, four inches broad, and eight or nine long, by means of a wooden mould, and then baked or burnt in a kiln, to serve the purposes of building. Bricks are of great antiquity, as appears by the sacred writings, the tower and walls of Babylon being built with them. In the east they baked their bricks in the sun; the Romans used them unburnt, only leaving them to dry for four or five years in the air.

The Greeks chiefly used three kinds of bricks; the first whereof was called διδακτον, *i. e.* of two palms, the second, τετραδακτον, of four palms; the third, πενταδακτον, of five palms. They had also other bricks, just half each of those, to render their works more solid, and also more agreeable to the sight, by the diversities of the figures and sizes of the bricks.

Of the matter whereof Bricks are made.

Pliny says, that to make good bricks they must not consist of any earth that is full of sand or gravel, nor of such as is gritty or stony; but of a greyish marl, or whitish chalky clay, or at least of a reddish earth: he also adds, that the best season for making bricks is the spring, because, if made in summer, they will be subject to crack, and be full of chinks. He directs, that the loam of which bricks are made, be well steeped and wrought with water.

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Bricks, among us, are various, according to their various forms, dimensions, uses, method of making, &c. the principal of which are, compass bricks, of a circular form used in stayning of walls; concave, or hollow bricks, on one side flat like a common brick, on the other hollowed, and used for conveyance of water: feather-edged bricks, which are like common statute bricks, only thinner on one edge than the other, and used for penning up the brick pannels in timber buildings: cogging bricks are used for making the indented works under the coping of walls built with great bricks: coping bricks, formed on purpose for coping of walls; dutch or Flemish bricks, used to pave yards, or stables, and for soap-boilers vaults and cisterns: clinkers, such bricks as are glazed by the heat of the fire in making: sandal or samel-bricks, are such as lie outmost in a kiln, or clamp, and consequently are soft and useless, as not being thoroughly burnt: great bricks are those twelve inches long, six broad, and three thick, used to build fence walls: plaister or buttress bricks, have a notch at one end, half the breadth of the brick; their use is to bind the work which is built of great bricks: statute bricks, or small common bricks, ought, when burnt, to be nine inches long, four and a quarter broad, and two and a half thick; they are commonly used in paving cellars, sinks, hearths, &c.

Making of BRICK. With regard to the manner of making bricks, we have place-bricks, generally made on the eastern part of Suffex; so called because of a level smooth place just by where they are struck or moulded. In this place, the bearer-off lays the bricks singly down in ricks or rows, as soon as moulded, where they are left till they are stiff enough to be turned on their edges, and drest, *i. e.* till their inequalities are cut off; when they are dry, they carry them to stacks, or places where they row them up, like a wall of two bricks thick, with some small intervals betwixt them, to admit the wind and air to dry them. When the stack is filled, they are covered with straw on the top, till they be dry enough to be carried to the kiln to be burnt.

Stock-bricks are of the same form with place-bricks, though different in the quality of their earth, and manner of making.

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ing. They are made on a stock, that is, the mould is put on a stock, after the manner of moulding or striking of tiles ; and when one brick is moulded, they lay it on a piece of board, a little longer than the brick, and on that brick they lay another like piece of board, and on this, another brick, till after this manner they have laid three bricks on one another ; and so they continue to strike and place them on the stage, as they do tiles, till the stage is full, then they take each three successively, and carry them to the stacks, and turn them down on the edges, so that there will be the thickness of a thin piece of board betwixt each brick. When the stack is filled with one height of bricks, from one end to the other, they begin to set them upon those first laid on the stack ; by that time they will be a little dried, and will bear the others ; for they are moulded of a very stiff earth. When they come to set a second, third, &c. height or course, they cater them a little, as they call it, to prevent their reeling. When the stack is as high as they think fit, they cover them with straw, as they do place-bricks, till they be dry enough to burn. This way is more troublesome than that of making place-bricks ; but they are forced to have recourse to it in many places, where, if they laid their bricks abroad in a place to dry, as they do place-bricks, the nature of the earth is such, that they would burst to pieces.

The several steps in the process of our brick-making, are, casting the clay or earth ; treading or tempering the same with water ; sanding the brick, which is to riddle or cast dry sand on the wet brick lying on the ground ; raising the bricks on one side, that they may dry the better and sooner ; walling the brick, is to lay one upon another, after the manner of a wall to keep them from foul weather, and that they may dry thoroughly ; fodding the bricks, is to cover them up with turf ; setting the bricks in the kiln, is the laying of slack or small-coal between every course or row of bricks ; dawbing the kiln, is the claying of it all about the top, to keep the fire in, and secure the kiln from weather ; firing, is to set the fuel put into the arches on fire ; earthing implies to put earth about it, to stop the arches, that the fire may take upwards to the top of the kiln ; cooling the kiln after it has done burning ; breaking the kiln ; counting of the bricks ; carrying the

bricks, which is to bring them to the place where they are to be used, either on horseback or in tumbrels.

The arches of a kiln of bricks, are the hollow places at the bottom where the fire is ; pigeon-holes are apertures in the fire-arches ; checker course, denotes the lower row of bricks in the arch ; tying course, those which cover the top of the arch ; binding course, is the laying of bricks over the joints of the under course ; dividing course, is the divisions or parts of a kiln ; flatting course, is the top of all the kiln ; the wheeler is he who carries the clay from the pit to the moulding board foot, and there turns it off the wheelbarrow ; staker, he who puts the clay off the ground upon the board ; moulder, he who works the clay into the brick-moulds, and strikes the superfluous clay off the top of the moulds ; breaker off, he who takes the mould, with the clay in it, from the moulder, and lays it on the ground to dry ; moulder, he who parts off the clay from the mould ; off-bearer, he who pulls off the empty mould into the tub of water or sand ; taker up of the brick has his work also to dress and smooth them from irregular edges.

After casting the clay, the next step is to tread or temper it, which ought to be performed doubly of what is usually done ; since the goodness of the bricks depends chiefly upon this first preparation. The earth itself, before it is wrought, is generally brittle and dusty ; but, adding small quantities of water gradually to it, and working and incorporating it together, it opens its body, and tinges the whole with a tough, glewy, strong band or substance. If, in the tempering, you over-water them, as the usual method is, they become dry and brittle almost as the earth they are made of ; whereas, if duly tempered, they become smooth and solid, hard and durable. A brick of this last sort takes up near as much earth as a brick and a half made the contrary way ; in which the bricks are spongy, light, and full of cracks, partly through want of due working, and partly by mixing of ashes and light sandy earth, to make it work easy, and with greater dispatch ; as also to save culm or coals in the burning. We may add, that for bricks made of good earth, and well tempered, as they become solid and ponderous, so they take up a longer time in drying and burning than the common ones ; and that the well drying of bricks,

bricks, before they be burned, prevents their cracking and crumbling in the burning.

The method of burning BRICKS. Bricks are burnt either in a kiln or clamp. Those that are burnt in a kiln, are first set or placed in it, and then the kiln being covered with pieces of bricks, they put in some wood, to dry them with a gentle fire; and this they continue till the bricks are pretty dry, which is known by the smoke's turning from a darkish colour to a transparent smoke: they then leave off putting in wood, and proceed to make ready for burning, which is performed by putting in brush, furze, spray, heath, brake, or fern faggots; but before they put in any faggots, they dam up the mouth or mouths of the kiln with pieces of bricks (which they call shinlog) piled up one upon another, and close it up with wet brick-earth, instead of mortar.

The shinlog they make so high, that there is but just room above it to thrust in a faggot; then they proceed to put in more faggots, till the kiln and its arches look white, and the fire appears at the top of the kiln; upon which they slacken the fire for an hour, and let all cool by degrees. This they continue to do, alternately heating and slackening, till the ware be thoroughly burnt, which is usually effected in forty-eight hours.

About London they chiefly burn in clamps, built of the bricks themselves, after the manner of arches in kilns, with a vacancy between each brick, for the fire to play through; but with this difference, that instead of arching, they span it over by making the bricks project one over another, on both sides of the place, for the wood and coals to lie in till they meet, and are bounded by the bricks at the top, which close all up. The place for the fuel is carried up straight on both sides, till about three feet high; then they almost fill it with wood, and over that lay a covering of sea-coal, and then overspan the arch; but they strew sea-coal also over the clamp, betwixt all the rows of bricks; lastly, they kindle the wood, which gives fire to the coal, and when all is burnt, then they conclude the bricks are sufficiently burnt.

Oil of BRICKS, olive oil imbibed by the substance of bricks, and afterwards distilled from it.

The process is as follows: the pieces of bricks being heated red-hot in a smart fire,

are extinguished in a trough half filled with olive oil: being then separated, and the brick thus saturated with oil, and grossly pounded, it is put into a retort, and placed in a reverberatory furnace, from whence is drawn an oil called by apothecaries *oleum de lateribus*, and by some chemists, oil of the philosophers. It is used for resolving tumours in the spleen, also against palsies, epilepsies, &c.

BRICKLAYER, one who lays bricks in the building of edifices of any kind. Tilers and bricklayers were incorporated to Eliz. under the name of master and wardens of the society of freemen of the mystery and art of tilers and bricklayers.

The materials used by bricklayers, are bricks, tiles, mortar, laths, nails, and tile-pins.

Their tools are, a brick-truel, wherewith to take up mortar; a brick-ax, to cut bricks to the determined shape; a saw, for sawing bricks; a rub-stone, on which to rub them; also a square, wherewith to lay the bed or bottom, and face or surface of the brick, to see whether they be at right angles: a bevel, by which to cut the under sides of bricks to the angles required: a small trammel of iron, wherewith to mark the bricks: a float-stone, with which to rub a moulding of brick to the pattern described: a banker, to cut the bricks on: line-pins, to lay their rows or courses by: plumb-rule, whereby to carry their work up right: level, to conduct it horizontal: square, to set off right angles: ten foot rod, wherewith to take dimensions: jointer, wherewith to run the long joints: rammer, wherewith to beat the foundation; crow and pick-ax, wherewith to dig through walls.

BRICK-LAYING, the art of framing edifices of bricks.

Brick-laying is one of the arts subservient to architecture.

Moxon has an exercise express on the art of brick-laying, wherein he describes the materials, tools, and methods of working used by bricklayers.

Great care is to be taken, that bricks be laid joint on joint in the middle of walls, as seldom as may be: and that there be good bond made there, as well as on the out-sides. Some brick-layers, in working a brick and half wall, lay the header on one side of the wall, perpendicular on the header on the other side, and so all

along through the whole course: whereas, if the header on one side of the wall were toothed as much as the stretcher on the other side, it would be a stronger toothing, and the joints of the headers of one side would be in the middle of the headers of the course they lie upon of the other side.

If bricks be laid in winter, let them be kept as dry as possible: if in summer, it will quit cost to employ boys to wet them, for that they will then unite with the mortar better than if dry, and will make the work stronger. In large buildings, or where it is thought too much trouble to dip all the bricks separately, water may be thrown on each course after they are laid, as was done at the building of the physicians college in Warwick-lane, by order of Dr. Hooke.

If bricks be laid in summer, they are to be covered: for if the mortar dries too hastily, it will not bind so firmly to the bricks, as when left to dry more gradually. If the bricks be laid in winter, they are also to be covered well, to protect them from rain, snow, and frost: which last is a mortal enemy to mortar, especially to all such as has been wetted just before the frost assaults it.

BRICKMAKER, he who undertakes the making of bricks. See the article **BRICK**.

BRICKING, among builders, the counterfeiting of a brick wall on plaster, which is done by smearing it over with red ochre, and marking the joints with an edged tool: these last are afterwards filled with a fine plaster.

BRIDE, *sponsa*, a woman newly married. See the article **MARRIAGE**.

Among the Greeks it was customary for the bride to be conducted from her father's house to her husband's in a chariot, the evening being chose for that purpose, to conceal her blushes: she was placed in the middle, her husband sitting on one side, and one of her most intimate friends on the other: torches were carried before her, and she was entertained in the passage with a song suitable to the occasion. When they arrived at their journey's end, the axle-tree of the chariot they rode in, was hurpt, to signify that the bride was never to return to her father's house. Among the Romans, when a bride was carried home to her husband's house, she was not to touch the threshold at her first entrance, but was to leap over it.

BRIDEGROOM, *sponsus*, a man newly married, the spouse of the bride.

The spartan bridegrooms committed a kind of rape upon their brides: for matters being agreed on between them two, the woman that contrived and managed the match, having shaved the bride's hair close to her skin, dressed her up in man's cloaths, and left her upon a mattress; this done, in came the bridegroom, in his usual dress, having supped as ordinary, and stealing as privately as he could to the room where the bride lay, and untying her virgin-girdle, took her to his embraces, and having stayed a short time with her returned to his companions, with whom he continued to spend his life, remaining with them by night as well as by day, unless he stole a short visit to his bride, which could not be done without a great deal of circumspection, and fear of being discovered.

BRIDEWELL, a work-house, or place of correction for vagrants, strumpets, and other disorderly persons.

These are made to work, being maintained with cloathing and diet; and when it seems good to their governors, they are sent by passes into their native countries: however, while they remain here, they are not only made to work, but, according to their crimes, receive, once a fortnight, such a number of stripes as the governor commands. Yet to this hospital several hopeful and ingenious lads are put apprentices, and prove afterwards honest and substantial citizens.

BRIDGE, a work of masonry or timber, consisting of one or more arches, built over a river, canal, or the like, for the convenience of crossing the same.

Bridges are a sort of edifices very difficult to execute, on account of the inconvenience of laying foundations, and walling under water.

The parts of a bridge are the piers, the arches, the pavement, or way over for cattle and carriages, the foot way on each side, for foot passengers, the rail or parapet, which incloses the whole, and the buttments or ends of the bridge on the bank.

The conditions required in a bridge are, that it be well designed, commodious, durable, and suitably decorated. The piers of stone bridges should be equal in number, that there may be one arch in the middle, where commonly the current is strongest; their thickness is not to be less than

than a sixth part of the span of the arch, nor more than a fourth; they are commonly guarded in the front with angular sterlings, to break the force of the current: the strongest arches are those whose sweep is a whole semicircle; as the piers of bridges always diminish the bed of a river, in case of inundations, the bed must be sunk or hollowed in proportion to the space taken up by the piers, (as the waters gain in depth what they lose in breadth) otherwise the current may wash away the foundation, and endanger the piers: to prevent this, they sometimes diminish the current, either by lengthening its course, or by making it more winding; or by stopping the bottom with rows of planks, stakes, or piles, which break the current. It is also required, that the foundation of bridges be laid at that season of the year, when the waters are lowest; and if the ground be rocky, hard gravel, or stony, the first stones of the foundation may be laid on the surface; but if the soil be soft sand, it will be necessary to dig till you come to a firm bottom.

Among the bridges of antiquity, that built by Trajan over the Danube is allowed to be the most magnificent; it was composed of twenty arches, of an hundred and fifty feet in height, and their opening from one pier to another was an hundred and sixty feet: the piers of this fine bridge are still to be seen in the Danube, being erected between Servia and Moldavia, a little above Nicopolis.

Among modern bridges, that of Westminster, built over the river Thames, may be accounted one of the finest in the world: it is forty-four feet wide, a commodious foot-way being allowed for passengers, on each side, of about seven feet broad, raised above the road allowed for carriages, and paved with broad moor-stones, while the space left between them is sufficient to admit three carriages and two horses to go a-breast, without any danger. Its extent from wharf to wharf is 1220 or 1223 feet, being full three hundred feet longer than London bridge. The free water-way under the arches of this bridge is eight hundred and seventy feet, being four times as much as the free water-way left between the sterlings of London bridge, before it was lately repaired; this disposition, together with the gentleness of the stream, are the chief reasons why no sensible fall of water can

ever stop, or, in the least, endanger the smallest boats, in their passage through the arches.

It consists of thirteen large and two small arches, together with fourteen intermediate piers.

Each pier terminates with a saliant right angle against either stream: the two middle piers are each seventeen feet wide at the springing of the arches, and contain three thousand cubic feet, or near two hundred tons of solid stone; and the others decrease in width equally on each side by one foot.

All the arches of this bridge are semicircular; they all spring from about two feet above low-water mark; the middle arch is seventy-six feet wide, and the others decrease in breadth equally on each side by four feet.

This bridge is built of the best materials, and the size and disposition of these materials are such, that there is no false bearing, or so much as a false joint in the whole structure; besides that, it is built in a neat and elegant taste, and with such simplicity and grandeur, that, whether viewed from the water, or by the passengers who walk over it, it fills the mind with an agreeable surprize. The semicircular towers, which form the recesses of the foot-way, the manner of placing the lamps, and the height of the balustrade, are, at once the most beautiful, and, in every other respect, the best contrived.

Bridges are either built of stone or timber, as is judged most convenient.

Stone BRIDGES consist of piers, arches, and buttments, made of hewn stone, sometimes also intermixed with bricks.

Wooden BRIDGES are composed of beams and joists, supported by punchions, well cramped and bound together.

Rushen BRIDGES are made of great bundles of rushes, bound fast together, over which planks are laid, and fattened: these are put over marshy places, to serve for a crossing ground.

Pendent or hanging BRIDGES, called also philosophical bridges, are those not supported by posts or pillars, but hung at large in the air, sustained only at the two ends or buttments.

Draw-BRIDGE, one that is fastened with hinges at one end only, so that the other may be drawn up; in which case, the bridge stands upright, to hinder the passage of a ditch or moat.

Flying or floating BRIDGE is generally made of

of two small bridges, laid one over the other in such a manner, that the uppermost stretches and runs out, by help of certain cords, running through pulleys placed along the sides of the under bridge, which push it forwards, till the end of it joins the place it is intended to be fixed on.

BRIDGE of boats, boats made of copper, and joined side by side, till they reach across a river, which being covered with planks, are fastened with stakes or anchors.

BRIDGE of communication is that made over a river, by which two armies, or forts, which are separated by that river, have a free communication with one another.

Floating BRIDGE, a bridge made use of, in form of a work in fortification, called a redoubt, consisting of two boats, covered with planks, which are solidly framed, so as to bear either horse or cannon.

BRIDGE, in gunnery, the two pieces of timber which go between the two transoms of a gun-carriage, on which the bed rests.

BRIDGE, in music, a term for that part of a stringed instrument over which the strings are stretched. The bridge of a violin is about one inch and a quarter high, and near an inch and a half long.

BRIDGE-TOWN, the capital of the island of Barbadoes; west longitude 56° , and north latitude 13° .

It has commodious wharfs, for unlading goods, also some forts and castles for the defence of the place.

BRIDGE-NORTH, a borough-town of Shropshire, situated on the river Severn, about fifteen miles south-east of Shrewsbury; west longitude $2^{\circ} 30'$, and north latitude $52^{\circ} 40'$.

It sends two members to parliament.

BRIDGE-WATER, a large borough-town of Somersetshire, situated near the mouth of the river Evil, in 3° west longitude, and $51^{\circ} 15'$ north latitude.

It likewise sends two members to parliament.

BRIDLE, in the manege, a contrivance made of straps or thongs of leather, and pieces of iron, in order to keep a horse in subjection and obedience.

The several parts of a bridle are the bit, or snaffle; the head-stall, or leathers from the top of the head to the rings of the bit; the fillet, over the fore-head and under the fore-top; the throat-band, which buttons from the head-band under the throat; the reins, or long thongs of leather that come from the rings of the

bit, and being cast over the horse's head, the rider holds them in his hand; the nose-band, going through loops at the back of the head-stall, and buckled under the cheeks; the trench; the caveman; the martingal, and the chaff-halter.

Bridles imported pay a duty of 4s. 9 $\frac{1}{2}$ d. the dozen; whereof 4s. 3 $\frac{1}{2}$ d. is repaid on exporting them again: besides which they also pay 6s. for every 20s. value upon oath, without any draw-back.

BRIDLE-HAND is the horse-man's left hand, the right-hand being the spear or sword-hand.

To swallow the BRIDLE, is said of a horse that has too wide a mouth, and too small a bit-mouth.

BRIDLE, *frænum*, in anatomy. See the article *FRÆNUM*.

BRIDON, or **SNAPPLE**, after the english fashion, is a very slender bit-mouth, without any branches. The English make much use of them, and scarcely use any true bridles except in the service of war. The French call them bridons, by way of distinction from bridles.

BRIDPORT, a borough and port-town of Dorsetshire, situated about ten miles west of Dorchester; west longitude 3° , and north latitude $50^{\circ} 40'$.

It sends two members to parliament.

BRIEF, in common-law, a writ whereby a man is summoned or attached to answer any action.

It is called brief, because it is couched in a few words, without any preamble.

Brief is also used for a writing issued out of any of the king's courts of record at Westminster, whereby something is commanded to be done, in order to justice, or the execution of the king's command.

BRIEF is also taken for a letter patent, granting a license to a subject to make collection for any public or private loss, as briefs for loss by fire, to be read by ministers in churches, &c.

BRIEF is likewise an abridgment of a client's case, wrote out for the instruction of council, on a trial at law.

Aposolical BRIEFS, letters which the pope dispatches to princes, or other magistrates, relating to any public affair.

These briefs are distinguished from bulls, in regard the latter are more ample, and always written on parchment, and sealed with lead or green wax; whereas briefs are very concise, written on paper, sealed with red wax, and with the seal of the fisherman, or St. Peter in a boat.

BRIEG, a town of Silesia, about twenty miles

- miles south-east of Breslaw: east longitude $17^{\circ} 20'$, and north latitude $50^{\circ} 50'$.
- BRIEUX**, a port-town of Brittany, in France, situated on the english channel, about thirty miles west of St. Malo; west longitude $2^{\circ} 50'$, and north latitude $48^{\circ} 40'$.
- BRIGADE**, in the military art, a party or division of a body of soldiers, whether horse or foot, under the command of a brigadier.
- An army is divided into brigades of horse and brigades of foot: a brigade of horse is a body of eight or ten squadrons; a brigade of foot consists of four, five, or six battalions.
- The eldest brigade has the right of the first line, and the second the right of the second, and the two next take the left of the two lines, and the youngest stand in the center.
- BRIGADE-MAJOR** is an officer appointed by the brigadier, to assist him in the management and ordering of his brigade.
- BRIGADIER** is the general officer who has the command of a brigade. The eldest colonels are generally advanced to this post. He that is upon duty is brigadier of the day. They march at the head of their own brigades, and are allowed a serjeant and ten men, of their own brigade for their guard.
- BRIGANDINE**, a coat of mail, a kind of antient defensive armour, consisting of thin jointed scales of plate, pliant and easy to the body.
- BRIGANTINE**, a small light vessel, which can both row and sail well, and is either for fighting or giving chase. It hath about twelve or fifteen benches for the rowers, one man to a bench: all the hands aboard are soldiers, and each man hath his musquet lying ready under his oar.
- BRIGG**, a market-town in Lincolnshire, about twenty-four miles north of Lincoln; west longitude $20'$, and north latitude $53^{\circ} 40'$.
- BRIGHTHELMSTON**, a little port-town in Sussex, about seven miles south-west of Lewes: west longitude $10'$, and north latitude $50^{\circ} 50'$.
- BRIHUEGA**, a town of new Castile, in Spain, about forty-three miles north-east of Madrid; west longitude $3^{\circ} 20'$, and north latitude 41° .
- BRILL**, or **BRIEL**, the capital of the island of Voorn, in Holland, situated about twelve miles south of the Hague; east longitude 4° , and north latitude $51^{\circ} 50'$.
- BRIMSTONE**, in natural history, the same with sulphur. See the article **SULPHUR**.
- BRIN**, a city of Moravia, dependent on Bohemia, about thirty miles south-west of Olmutz; east longitude $16^{\circ} 20'$ and north latitude $49^{\circ} 14'$.
- BRINDISI**, a port-town of the kingdom of Naples, situated on the gulph of Venice, about thirty five miles north-west of Otranto; east longitude $18^{\circ} 45'$, and north latitude $40^{\circ} 40'$.
- BRINE**, water replete with saline particles; or pickle. See the article **SALT**.
- BRINE-WATER**, a salt water, which being boiled, turns into salt. See **SALT**.
- Brine taken out of brine-pits, or brine-pans, used by some for curing or pickling of fish, without boiling the same into salt, and rock-salt without refining it into white-salt, are prohibited by 1 Anne, cap. xxi.
- BRINGERS-UP**, The whole last rank of a battalion, being the last men of each file, are called bringers-up.
- BRINGING-IN a horse**, in the manege, the same as to say keep down the nose of a horse that boars, and tosses his nose in the wind: this is done by means of a good branch. See **BANQUET** and **WIND**.
- BRIONY**, or **BRYONY**. See **BRYONY**.
- BRISAC**, a fortified town of Swabia, in Germany, situated on the eastern shore of the river Rhine, about thirty miles north of Strasburg; east longitude $7^{\circ} 15'$, and north latitude $48^{\circ} 10'$.
- New* **BRISAC**, a fortress on the western shore of the Rhine, opposite to old Brisac. It is situated in Alsace, and belongs to the French.
- BRISGOW**, a territory of the circle of Swabia, in Germany, situated on the east side of the Rhine, opposite to the upper Alsace, whereof Fribourg and Brisac are the chief towns.
- BRISTLE**, a rigid glossy kind of hair, found on swine, and much used by brush-makers, &c.
- Bristles, rough and undressed, pay a duty of 1s. 2 $\frac{3}{4}$ d. the dozen pound, whereof 1s. $\frac{2}{3}$ d. is drawn back on exporting them: whereas dressed bristles pay a duty of 2s. 4 $\frac{7}{8}$ d. the dozen pound; whereof 2s. 1 $\frac{8}{16}$ d. is drawn back on exportation.
- The whiskers of cats are also sometimes called bristles; as are the quills of the porcupine.
- BRISTOL**, a city and port-town of England,

land, situated partly in Gloucestershire, and partly in Somersetshire; west longitude $2^{\circ} 40'$, and north latitude $51^{\circ} 30'$. It stands on the river Avon, about 115 miles west of London, and is a town of the greatest foreign trade of any in Britain next to London. It is also a bishop's see, sends two members to parliament, and gives the title of earl to the noble family of Harvey.

New BRISTOL, the capital of the county of Bucks, in Pennsylvania, about twenty miles north of Philadelphia. It is situated on the river Delaware, in 75° west long. and $40^{\circ} 45'$ north latitude.

BRISTOL-WATER. These waters are the fourth in degree amongst the waters which are esteemed warm. The waters of Bath are the first, Buxton the second, and Matlock the third.

Bath waters are beneficial, when the secretions from the blood are diminished; Bristol, when too much increased: Bath attenuates powerfully; Bristol incrassates: Bath is spirituous, and helps defects; Bristol is more cooling, and suppresses plenitude, with its consequences, inflammations and hæmorrhages.

If we may judge of the contents of Bristol waters, from their effects, which are exceedingly deterfive and healing, they partake chiefly of chalk, *lapis calcarius*, and *calaminaris*, the virtues of which are too dry to cleanse; they fill ulcers with flesh, and cicatrize them.

But whatever the substances are that impregnate them, it is plain they are very subtil, and that there is but little of a terrestrial part in them, from their specific lightness above other waters: yet when we consider how agreeable to the sight, smell and taste; how clear, pure and soft they are; their gentle degree of heat, so adapted to sundry diseases, it must be concluded, that those waters do imbibe some salutary particles in their passage through the earth, and from the many cures yearly wrought by them, that they have an undoubted title to a place in the first class of medicinal waters.

The diseases in which Bristol waters are properly prescribed, are internal hæmorrhages, and inflammations, blood-spitting, dysentery, and immoderate flux of the menses, purulent ulcers of the viscera: hence in consumptions, the dropsy, scurvy with heat, stone, gravel, strangury; the habitual gout, scorbutic rheumatism, diabetes, slow fevers, atrophy, pox,

cancer, gleans in both sexes, king's-evil, &c. in all these disorders, Bath waters are not only improper, but hurtful; they rouse the two languid, and quicken the too lazy circulation; they allay the heat, and restrain the too rapid motion of the blood. Those impregnate the phlegmatic, these temperate the choleric constitution. Bath water seems to be adapted to the maladies of the stomach, intestines, and nerves; Bristol, to those of the lungs, kidneys, and bladder: again, Bath waters are at variance with a milk course; and the Bristol can never be judiciously directed, but where that may be joined, with reason and success.

The Bristol waters are taken medicinally only during the hot months, as from April to September.

BRITAIN, or **GREAT-BRITAIN**, the most considerable of all the european islands, lies between 50° and 60° north latitude, and between 2° east longitude, and 6° west longitude.

The general division of Britain, is into south and north Britain, or England and Scotland. See **ENGLAND** and **SCOTLAND**.

New BRITAIN, a large country of north America, called also Terra Labrador, has Hudson's bay and strait on the north and west; Canada and the river of St. Lawrence, on the south; and the Atlantic ocean, on the east.

It is subject to Great-Britain, but yields only skins and furs.

BRITANNIC, in a general sense, denotes something belonging to Great-Britain; but is more particularly applied to the king, who is stiled his Britannic Majesty.

BRITANY, a province of France, surrounded by the english channel and the bay of Biscay, on the north, west, and south; and bounded, on the east, by the province of Orleansois.

BRITE, or **BRIGHT**, in husbandry. Wheat, barley, or any other grain, is said to brite, when it grows over ripe, and shatters.

BRITISH, something belonging to Great Britain: thus, we say, the british empire, british islands, &c.

The british empire comprehends all the dominions belonging to Great-Britain, in whatever part of the world; but the term seems to be more especially used for the british plantations in North America. Under the designation of british islands are comprehended, Great-Britain, Ireland, and the isles of Wight, Scilly, Man,

Man, &c. also the Orkney-islands, the Schetland-islands, and the western-islands of Scotland. See the articles **BRITAIN**, **IRELAND**, &c.

BRITTLENESS, that quality of bodies, on account of which they are denominat- ed brittle; or, which subjects them to be easily broken.

Brittle bodies are likewise very hard and durable, barring accidents; and it is remarkable, that tin, tho' tough in itself, makes all other metals brittle, when mixed with them.

BRIXEN, a city of Tyrol, in Germany, about fifty miles north-east of Trent: east long. $11^{\circ} 45'$, north lat. $46^{\circ} 45'$.

BRIZA, in botany, a genus of the trian- dria-digynia class of plants, whose corol- la is composed of two valves; the lower valve is of the size and shape of the cup; the upper valve is small, plane, and round- ish, shutting up the hollow of the other: the corolla, serving in the place of a peri- carpium, incloses the seed, and when ripe, dropping it out: the seed is single, very small, roundish and compressed.

BRIZE, in husbandry, denotes ground that has lain long untilled.

BRIZE-VENTS, shelters used by gardeners who have not walls on the north side, to keep cold winds from damaging their beds of melons. They are inclosures about six or seven feet high, and an inch or more thick; made of straw, sup- ported by stakes fixed into the ground, and props across on both inside and out- side; and fastened together with willow- twigs, or iron-wire.

BROADALBIN, a district or country of Perthshire, in Scotland, bordering upon Argyleshire: it gives the title of earl to a branch of the noble family of Camp- bell.

BROADSIDE, in the sea-language, de- notes a volley of cannon, or a general discharge of all the guns on one side of a ship at once.

BROCADE, or **BROCADO**, a stuff of gold, silver, or silk, raised and enriched with flowers, foliages, and other orna- ments, according to the fancy of the mer- chants, or manufacturers.

Formerly the word signified only a stuff, wove all of gold, both in the warp and in the woof, or all of silver, or of both mixed together; thence it passed to those of stuffs in which there was silk mixed, to raise and terminate the gold or silver flowers; but at present all stuffs, even

those of silk alone, whether they be *grô-grams* of Tours or of Naples, sattins, and even taffeties or lustrings, if they be but adorned and worked with some flowers, or other figures, are called brocades.

BROCADE SHELL, the english name of the coronated cylindrus, of a silvery white colour, variegated with brown. See plate XXXII. fig. 3. and the article **CYLINDRUS**.

BROCATEL, or **BROCADEL**, a kind of coarse brocade, chiefly used for tapestry. See the article **BROCADE**.

BROCCOLI, a kind of cabbage cultivated for the use of the table, the manner of dressing which is this: when their heads are grown to their full bigness, they are to be cut off, with about four inches of the tender stem; the outer skin is then to be stripped off the stem, after which they are to be washed, and boiled in a clean linen cloth, as is practised for cauliflowers. They are tenderer than any cauliflower, tho' very like them in taste.

BROCK, among sportsmen, a term used to denote a badger.

A hart too of the third year is called a brock, or brocket; and a hind of the same year, a brocket's sister.

BRODERA, or **BRODRA**, a city of Asia, in the country of the mogul and king- dom of Guzurat, where there is a great trade in cotton cloths: east longitude $73^{\circ} 30'$, north latitude $22^{\circ} 25'$.

BROGLIO, a town of Piedmont, in Italy, situated near the frontiers of Provence, about twenty-five miles north-west of Nice; east longitude $6^{\circ} 42'$, and north latitude $44^{\circ} 12'$.

It is the capital of a country of the same name.

BROKEN, in a general sense, denotes some- thing divided into several parts. Hence, Broken numbers are the same with frac- tions. See the article **FRACTION**.

BROKEN RAY, the same with ray of re- fraction. See the article **REFRACTION**. It is thus called, because, in crossing the second medium, the ray of incidence changes its rectitude; being refracted, or broken, as it were.

BROKEN WIND, among farriers, is a ma- lady that happens to a horse when he is suffered to stand too long in the stable, without exercise: by this means he con- tracts gross and thick humours in such abundance, that adhering to the hollow parts of his lungs, they stop his wind- pipe.

This distemper is known by the horse's heaving and drawing up his flanks together, and blowing wide his nostrils.

To cure this disorder, take the guts of a hedge-hog, dry them, and pound them to powder, and give the horse two or three spoonfuls of it in a pint of wine or strong ale; then mix the rest with aniseed, liquorice, and sweet butter, of which make round balls, or pills, and give him two or three of them after drink, and let him fast two or three hours.

BROKER, a name given to persons of several and very different professions, the chief of which are exchange-brokers, stock-brokers, pawn-brokers, and brokers, simply so called, who sell household furniture, and second-hand apparel.

Exchange-BROKERS are a kind of agents, or negotiators, who contrive, propose, and conclude bargains between merchants, and between merchants and tradesmen, in matters of bills of exchange, or merchandize, for which they have so much commission. These, by the statute of 8 and 9 William III. are to be licensed in London by the lord-mayor, who gives them an oath, and takes bond for the faithful execution of their offices. If any person shall act as broker, without being thus licensed and admitted, he shall forfeit the sum of 500 l. and persons employing him 5 l. and brokers are to register contracts, &c. under the like penalty: also brokers shall not deal for themselves, on pain of forfeiting 200 l. They are to carry about with them a silver medal, having the king's arms, and the arms of the city, and pay 40 s. a year to the chamber of the city. The exchange brokers make it their business to know the alteration of the course of exchange, to inform merchants how it goes, and to give notice to those who have money to receive, or pay, beyond sea; they are the proper persons for negotiating the exchange, and when the matter is accomplished, that is, when the money for the bill is paid, and the bill delivered, they have for brokerage 2 s. for 100 l. sterling.

They reckon at Paris, among the city officers, who are employed under the jurisdiction of the provost of the merchants, and *eschevins*, or aldermen, three sorts of brokers.

1. The brokers of horses for the carriage of merchandize by water; they are established for the navigation, and take

care to examine the horses used to draw the boats up the river; to fet the horses together, to oblige the carriers to repair their boats, or to break such as are no longer fit to serve.

2. Sworn wine-brokers on the keys, to examine and taste all the wine that arrives there.

3. Brokers of bacon and lard. These are established to examine those sorts of merchandizes, as they are landed or unloaded, and to answer for their goodness to the buyer, and to the seller, for the price of his wares.

Stock-BROKERS are those who are employed to buy and sell shares in the joint stock of a company, or corporation.

As the practice of stock-jobbing has been carried on to such an excess as became not only ruinous to a great number of private families, but even affected, or at least might soon affect, the public credit of the nation, the legislature thought fit to put a stop to it, or at least to bring it within certain bounds, and under some regulation, by statute 7 Geo. II. c. viii. sect. 1.

PAWN-BROKERS. These are persons who keep shops, and lend money upon pledges to necessitous persons, and most commonly at an exorbitant interest. They are more properly stiled pawn-takers, or tally-men, sometimes fripers, or friperers. These are meant in 1 Jac. 1. cap. xxi. sect. 5. where it is declared, that the sale of goods wrongfully taken to any broker, or pawn-broker in London, Westminster, Southwark, or within two miles of London, does not alter the property.

And sect. 7. If a broker, having received such goods, shall not, upon request of the owner, discover them, how and when he came by them, and to whom they are conveyed, he shall forfeit the double value thereof, to be recovered by action of debt, &c.

In the cities of Italy, there are companies established by authority for the letting out money on pawns, called mounts of piety; a title little becoming such institutions, as the loan is not gratis. In some parts of Italy, they have also mounts of piety of another kind, wherein they only receive ready money, and return it again with interest, at a certain sum *per annum*.

At Bologna they have several such mounts, which are distinguished into *frank* and *perpetual*; the interest of the former

former is only four *per cent.* that of the latter, seven.

BROKERS are also those who sell old household furniture, and wearing apparel, &c.

BROKERAGE, the fee paid to a broker for his trouble in negotiating business between person and person. See **BROKER**.

BROMELIA, in botany, a genus of the hexandria monogynia class of plants, the calyx of which is a small three-cornered permanent perianthium, sitting upon the germen: the corolla consists of three erect, narrow, spear-shaped petals, longer than the cup. The fruit is a roundish umbilicated berry, the seeds are numerous, oblong, obtuse, and incumbent. This genus comprehends the ananas, pinguin, and karatas, of former botanists. See the articles **ANANAS**, &c.

BROMESGROVE, a market-town in Worcestershire, about ten miles north of Worcester; west longitude $2^{\circ} 5'$, and north latitude $52^{\circ} 26'$.

BROMLEY, a market-town of Kent, ten miles south-east of London; east longitude $5'$, north latitude $51^{\circ} 25'$.

BROMLEY is also the name of a market-town of Staffordshire, about ten miles east of Stafford: west longitude $1^{\circ} 50'$, and north latitude $52^{\circ} 45'$.

BROMUS, in botany, a genus of the triandria-digynia class of plants. The flower consists of two valves of an ovato-oblong figure; the lower one is the larger, and emits a strait arista; above the insertion of this arista it is bifid: the upper valve has no arista. The fruit is nothing but the corolla that covers every way a single oblong seed, convex on one side, and hollowed on the other. A decoction of the root of this plant is recommended for the worms in children.

BRON, or **BRONNO**, a town of the territory of Pavia, in the Milanese in Italy, situated on the south side of the river Po, about twelve miles south of Pavia; east longitude 10° , north latit. $44^{\circ} 50'$.

BRONCHIA, in anatomy, the ramifications of the trachea.

The bronchia, in their origin, are formed of imperfect annuli, and in their progress of cartilaginous and membranous frustæ; very curiously connected and joined together. These have their origin from the trachea; and after being subdivided into innumerable ramifications, finally terminate in those small vesicles which form the greater part of the substance of the lungs. These vesicles

have interstices all the way between them, and adhere, as it were, to the branches of the bronchia, in the manner of clusters of grapes. See the article **LUNGS**.

BRONCHIAL ARTERY, a vessel allotted to the nutrition of the lungs.

It rises sometimes single, sometimes double, sometimes triple, from the aorta and intercostals, and adheres every where firmly to the bronchia.

BRONCHIAL VEIN arises either from the intercostals, or from the vena azygos; accompanies the artery, and divides into the same number of branches with it. As the artery brings blood to the bronchia for the nutrition thereof, and of the vesicles of the lungs, so the vein carries off the blood again to the cava, where it soon terminates.

BRONCHOCELE, in surgery, a tumour arising in the anterior part of the neck, from the resisting flatus or air, some humour or other violence, as straining in labour, lifting of weights, &c. This disorder with us is frequently called a Derby-neck, on account of the inhabitants of that county being much subject to it; probably for the same reasons that the inhabitants about the valleys of the Alps, and other mountainous countries, are so much affected with it; namely, the air or waters of the country. But it has not been yet explained, in what manner they operate to produce these effects. This tumour, when once become inveterate, is very difficultly, if ever, curable by medicines; but may be dispersed, if it is recent. A leaden collar, mixed with mercury, prevents it from growing bigger, if it does not intirely disperse it. Some advise to rub it well with the hand or a bone of a dead man, and others direct to other superstitious means; but the most celebrated remedy is one that is sold at Coventry, and kept a secret by the preparer. It is ordered to be laid under the tongue, every night upon going to bed.

BRONCHOTOMY, in surgery, an incision made in the aspera arteria, or wind-pipe, which is necessary in many cases, and especially in a violent quinsy, to prevent suffocation from the great inflammation or tumour of the parts. It is also called laryngotomy and tracheotomy.

There are several methods of performing this operation; but that which exceeds the rest, as being most easy and expeditious, and occasioning the least wound

and pain to the patient, is by an instrument consisting of a small tube, in which is contained a triangular needle called a trochar. This instrument is so managed, as to pass through the middle of the trachea by one push; and after drawing out the needle from the tube, the latter is left in the wound, till the patient recovers. Bronchotomy should be performed in time, while there is sufficient strength and hopes of the patient's recovery; for when the patient is spent, it is usually performed in vain. If a drowned person has but just expired, or not continued long under water, the most certain and expeditious way of recovering him, will be by opening the trachea with such instrument as is nearest at hand, and afterwards to inflate or blow into his lungs, either with the naked mouth, or with a tube.

BRONCHUS, *ῥογχος*, according to Galen, is the aspera arteria which reaches from the larynx to the lungs, consisting of the bronchia. See the article **BRONCHIA**. Sometimes it is put for the whole aspera arteria; and Hippocrates uses it to signify the throat.

BRONTIUM, *ῥοῖσιον*, in grecian antiquity, a place underneath the floor of the theatres, in which were kept brazen vessels full of stones and other materials, with which they imitated the noise of thunder.

BRONTOLOGY denotes the doctrine of thunder, or an explanation of its causes, phenomena, &c. together with the pre-figures drawn from it. See **THUNDER**.

BRONZE, a compound metal, two thirds of which consists of copper, and one third of brass.

In order to render it more solid, it is usual to put a little more than one third of brass, to which is added some fine tin.

BRONZES, a name given by antiquarians to figures either of men or beasts, to urns, and, in general, to every piece of sculpture which the antients made of that metal. We likewise give the name of bronzes to statues, busts cast of bronze, whether these pieces be copies of antiques, or original subjects.

Among medallists, all copper metals bear the name of bronze.

BRONZING, the art of imitating bronze, which is done by means of copper dust or leaf fastened on the outside, as gold leaves are in gilding. There are two sorts of this colour, the red and the yellow, or golden. The latter is made solely of copper dust, the finest and brightest that can

be had; in the former is added a little quantity of red oker well pulverised; they are both applied with varnish, and to prevent their turning greenish, the work must be dried over a chaffing-dish, as soon as bronzed. See the article **VARNISH**.

BROOD, the young of fish and fowls.

The brood of sea-fish is spawned, and lies in still waters, where it may have rest to receive nourishment, and grow to perfection; and here it is often destroyed by weirs, draw-nets, or nets with canvas or like engines in the bottoms of them, in harbours, havens, and creeks. Every weir, near the main sea, takes, in twelve hours, sometimes five bushels, sometimes twenty or thirty.

BROOK, a little, river, or small current of water.

A brook is distinguished from a river in so much, as a river flows at all times, whereas a brook flows at some particular seasons only.

BROOK-LIME, in botany, the english name of the water anagallis. See **ANAGALLIS**. Brook-lime is moderately hot and moist, and said to be good for cleansing the blood; and, consequently, recommended against the scurvy, dropsy, and stone.

BROOK-LIME is also the English name of the lateral cluster-flowered veronica, with oval leaves and creeping stalks. See the article **VERONICA**.

BROOM, *genista*, in botany. See the article **GENISTA**.

Many gather the yellow buds of this plant, and pickle them with salt and vinegar, in the same manner as capers, from which they are not then to be distinguished; the flowers are most in use, and are accounted splenetic, nephritic, and hepatic.

Broom is extremely pernicious to arable and pasture lands; and therefore ought, by all means, to be rooted up, which is the only method of killing it. On barren grounds, indeed, it is a good improvement; for besides its use as fuel, it makes an excellent and lasting thatch, if well laid on.

Butcher's-BROOM, the english name of a genus of plants, called by botanists *ruscus*. See the article **RUSCUS**.

Spanish BROOM, in botany, the spartium of authors. See the article **SPARTIUM**.

This is an extremely beautiful shrub, which sometimes grows to an incredible height.

BROOM-RAPE, in botany, the orobanche of botanists. See **OROBANCHE**.

BROOMING, or **BREAMING** of a ship, the washing

washing and burning off all the filth that she has contracted on her sides with weeds, straw, broom, or the like, when she is on the career, or on the ground. See the article CAREENING.

BROSSÆA, in botany, a genus of plants mentioned by Plumier, the calyx of which is a perianthium, formed of a single leaf, divided into five segments, which terminate in erect acute points, of the length of the corolla; which is also formed by a single petal, and of a conic figure, the top truncated and undivided; the germen is pentacoccus; the style is subulated, and shorter than the corolla; the stigma simple; the fruit is a round capsule, divided by five furrows, containing five cells; the seeds are numerous and small.

BROTHER, *frater*, a term of relation between male children, sprung from the same parents, or from the same father, or the same mother.

The antients use the term brother, indifferently, to almost all who stood related in the collateral line, as uncles and nephews, cousins-german, &c.

According to the laws of Moses, the brother of a man, who died without children, was obliged to marry the widow of the deceased, in order to raise up children to him, that his name and memory might not be extinct. See the article WIDOW.

Among us, it is customary for kings to give the title brother to each other.

In the civil law, brothers, *fratres*, in the plural number, sometimes comprehends sisters.

Brother is also a customary term for priests of the same persuasion to address one another by: but it is more particularly used to denote the relation between monks of the same convent, as brother Zachary: In english, we more usually say, friar Zachary, from the french word *frere*, brother: preachers also call their hearers, my brethren, or my dear brethren; and sometimes they use the singular number, and say, my brother, or my dear brother. This appellation is borrowed from the primitive christians, who all called each other brothers: but it is now principally used for such of the religious as are not priests; those in orders are generally honoured with the title of father, whereas the rest are only simply brothers.

Lay-BROTHERS. See the article LAY.

In the military orders, the knights are also called brothers.

In the order of Malta, there is a particular class who are called serving brothers, consisting of such as cannot give proof of their nobility.

BROTHERS-GERMAN, *fratres germani*. See the article GERMAN.

BROTHERS by adoption. See ADOPTION. Two brothers, who have only the same father, are called *fratres consanguinei*; and those who are only descended from the same mother, are called *fratres uterini*.

BROTHERS of the rosy-cross. See the article ROSYCRUCIAN.

Sworn BROTHERS, *fratres conjurati*. See the article FRATRES.

BROUAGE, a fortress in the territory of Santoign, in France, situated on a bay of the sea, about eighteen miles south of Rochelle; west longitude 1°, and north latitude 45° 50'.

BROUERSHAVEN, a port town of Zealand, in the united Netherlands, situated on the north side of the island of Schonen, about nine miles south-west of Helvoetsluys; east longitude 3° 55', and north latitude 51° 50'.

BROW, or **EYE-BROW**, an hairy arch extended over the orbit of each eye.

The eye-brows are composed of hairs of a peculiar kind and a determinate length, all turned toward the temples; and under these, is a thick skin and some fat, by means of which they are raised and become more eminent. That part of the eye-brows, where they approach one to another about the root of the nose, is called their head; the opposite extremity is their tail. Their use is to prevent the sweat, trickling from the forehead, getting into the eyes, and for moderating the force of the light from overhead. See the article EYE.

BROW-ANTLER, among sportsmen, that branch of a deer's horn next the head.

BROWALLIA, in botany, a genus of plants of the didynamia-angiospermia class; the flower of which is monopetalous, of a funnel form; the fruit is an ovato-obtuse capsule, with only one cell, divided into four segments at the top, and containing several small seeds.

BROWN, among dyers, painters, &c. a dusky colour, inclining towards redness. Of this colour there are various shades or degrees, distinguished by different appellations; for instance, spanish-brown, a sad-brown, a tawney-brown, the london brown, a clove-brown, &c.

Spanish-brown is a dark dull red, of a horse-flesh colour. It is an earth, and

is of great use among painters, being generally used as the first and priming colour that they lay upon any kind of timber-work in house-painting. That which is of the deepest colour, and freest from stones, is the best. Though this is of a dirty brown colour, yet it is much used not to colour any garment, unless it be an old man's gown; but to shadow vermillion, or to lay upon any dark ground behind a picture, or to shadow yellow berries in the darkest places, when you want lake, &c. It is best and brightest when burnt in the fire, till it be red hot, although, if you would colour any hare, horse, dog, or the like, it should not be burnt; but, for other uses, it is best when it is burnt, as for instance, for colouring wood, posts, bodies of trees, or any thing else of wood, or any dark ground of a picture.

The method of dying browns is, by entering the cloth in a boiling bath of red wood ground and nut-galls bruised; and when it has boiled for two hours and a half, and has been cooled and aired, it is entered again in the same bath, to which a proportionable quantity of copperas must first be added. The sadder you would have the brown, the more copperas must be put in.

BROWN-WORT, in botany, a name given to two very distinct genera of plants, the *brunella* and *scrophularia*. See the articles **BRUNELLA** and **SCROPHULARIA**.

BROWNISTS, in church-history, a religious sect, which sprung up in England, towards the end of the XVIth century. Their leader was one Robert Brown, born at Northampton. They separated from the established church, on account of its discipline and form of government. They equally disliked episcopacy and presbyterianism. They condemned the solemn celebration of marriages in churches, maintaining, that matrimony being a political contract, the confirmation of it ought to proceed from the civil magistrate. They rejected all forms of prayer, and held, that the Lord's prayer was not to be recited as a prayer; being given only as a model, upon which to form our prayers.

BRUCHSAL, a town of the bishopric of Spire, in the palatinate of the Rhine, in Germany; east longitude $8^{\circ} 30'$, and north latitude $49^{\circ} 15'$.

BRUGES, a city and port-town of Flanders, eleven miles east of Ostend, and

twenty-four north-west of Ghent; east longitude $3^{\circ} 5'$, and north latit. $51^{\circ} 16'$. There is a navigable canal from Ostend to Bruges, which has still the best foreign trade of any town in Flanders.

BRUISE, in surgery, the same with contusion. See the article **CONTUSION**.

BRUISING, in pharmacy, the crushing or pounding certain medicines, as roots, woods, &c. in a coarse manner, to make them yield their virtues the more readily.

BRUMALIA, in roman antiquity, festivals of Bacchus celebrated twice a year; the first on the twelfth of the calends of March, and the other on the eighteenth of the calends of November. They were instituted by Romulus, who, during these feasts, used to entertain the senate. Among other heathen festivals, which the primitive christians were much inclined to observe, Tertullian mentions the *brumæ* or *brumalia*.

BRUNELLA, in botany, a genus of the *didynamia-gymnospermia* class of plants; the flower of which is monopetalous, with a short cylindric tube. There is no pericarpium, but the cup contains four seeds, nearly of an oval figure.

The *brunella*, or self-heal, is recommended in wounds of the lungs, and externally in the quinsy, and other diseases of the throat. It is a very useful plant in all inflammatory diseases, in hæmorrhages, dysenteries, and in spitting of blood.

BRUNFELSIA, in botany, a genus of plants belonging to the *pentandria-monogynia* class; the flower of which consists of a single petal, of a funnel form; the fruit is a globose berry, with one cell containing numerous roundish seeds, placed close to the integument of the berry.

BRUNIA, in botany, a genus of the *pentandria-monogynia* class; the flower of which consists of five petals, with slender unguis of the length of the cup, and roundish patent bractæ: there is no pericarpium; but the common receptacle of the fructifications separates the perianthia by its hairy squamæ: the seeds are single and somewhat hairy.

BRUNSBUTTEL, a port-town of Holstein, in the circle of Lower Saxony, in Germany, situated at the mouth of the river Elbe; east longitude $8^{\circ} 42'$, and north latitude $54^{\circ} 10'$.

It is subject to Denmark.

BRUNSWICK, the capital of the dutchy of Brunswick, in the circle of Lower Saxo-

Saxony, in Germany, situated on the river Ocker, about thirty-five miles east of Hanover; east longitude $10^{\circ} 30'$, and north latitude $52^{\circ} 30'$.

The elector of Hanover is stiled duke of Brunswick, though he has no property in, or dominion over, the city of that name, which belongs to the duke of Brunswick Wolfenbüttele.

BRUNT-ISLAND, a parliament-town on the coast of Fife, in Scotland, about ten miles north-west of Edinburgh; west longitude 3° , and north latitude $56^{\circ} 12'$.

BRUSH, an instrument made of bristles, hair, wire, or small twigs to clean cloaths, rooms, &c. and also to paint with. There are various sorts of them, distinguished by their shape or use. In the choice of painters brushes, observe whether the bristles are fast bound in the stocks, and if the hair be strong and lie close together; for if they sprawl abroad, such will never work well; and if they are not fast bound in the stock, the bristles will come out when you are using them, and spoil your work, as may be seen where the loose hairs of the brush have lain up and down in the colours laid on, to the great detriment of the work.

Wire-brushes are of use for scrubbing those silver, copper, and brass pieces, which are to be gilded over, in order to clear them perfectly from any dirt, rust, or filth, which may adhere to them, and, if not brushed off, would hinder the closing of the gold with them. They are therefore used by gilders, silversmiths, &c. and are usually sold by ironmongers. Beard brushes pay a duty, on importation, of $1s. 3\frac{4}{10}d.$ the gross or twelve dozen; whereof $1s. 1\frac{1}{2}d.$ is drawn back on exporting them. Comb-brushes pay $2s. 6\frac{8}{10}d.$ for the same number; and of this $2s. 3d.$ is repaid. Head-brushes pay $1s. 3\frac{4}{10}d.$ the dozen: rubbing-brushes $3\frac{8}{10}d.$ the dozen: weavers-brushes $11\frac{5}{10}d.$ for the same number; in all which a proportionable draw-back is allowed. However, it is to be observed, that brushes are among the number of goods prohibited to be imported.

BRUSSELS, the capital of the province of Brabant, and of all the aultrian Netherlands. It is situated on the river Senne, and is the see of a bishop; east longitude $4^{\circ} 6'$, and north latitude $50^{\circ} 50'$. It is a strong fortified town, and agreeably situated, which, together with the

viceroy's residence, occasions a great resort of nobility and gentry.

BRUTE, an animal without the use of reason, or that acts by mere instinct, in which sense it denotes much the same with beast, and comprehends all animals, excepting mankind.

Philosophers, however, are far from being agreed on this subject; some making brutes mere machines, whilst others raise them to the level of mankind, and allow them not only reason, but immortality. Perhaps those come nearest the truth, who, taking a middle course, allow brutes to have imagination, memory, and passion; but deny, that they have understanding or reason, at least, in any degree comparable to that of mankind.

The sagacity of many brutes is, indeed; admirable. Elephants, that have once escaped the trap, are extremely distrustful ever after, carrying a bough of a tree about with them to try if the ground be sound, before they will venture to tread on it. Examples of the great sagacity of dogs, of the fox, and of other brutes, need not be quoted, being too generally known to be denied by the most sceptical. On the other hand, what a prodigious difference is there between the sagacity of brutes, and the reason of mankind? even those who maintain an insensible gradation from one order of beings to another, must acknowledge that there is a vast chasm here.

BRUTON, a market-town in Somersetshire, about ten miles south-east of Wells; west longitude $2^{\circ} 35'$, and north latitude $51^{\circ} 15'$.

BRYANSBRIDGE, a town of Ireland, in the county of Clare, and province of Connaught, situated on the river Shannon, about eight miles north of Limerick.

BRYONIA, or **BRYONY**. See the next article.

BRYONY, *bryonia*, in botany, a genus of the monoecia-syngenesia class of plants; the flower of which consists of a single petal, divided into five deep segments; the fruit is a roundish berry, containing a few seeds, for the most part of an oval figure. See plate XXXII. fig. 5.

The expressed juice of the root of this plant, being of a bitter, acrid, and nauseous taste, is an attenuant and resolvent. It powerfully dissolves viscid humours, and carries them off by stool, and sometimes

times



cutient plasters avail nothing, it will be proper to bring it to suppuration, by the application of emp. diaclylon, cum guminis, or something as effectual. If violent pains also affect the patient, the frequent application of digesting cataplasms warm to the part, will not only mitigate the pain, but also greatly promote a dispersion, or else a digestion and maturation.

Pestilential BUBOS are distinguishable from other tumours, by their happening at a time, and in conjunction with the plague, and from their being accompanied, in the patient, with the symptoms proper to that distemper: these tumours are sometimes joined with carbuncles.

It is not, without reason, affirmed by some of the more learned and modern physicians, that almost the whole business of curing the plague consisted in carefully promoting the eruption of bubos. The patient, upon the first appearance of the tumours, should keep the house, or rather keep in a warm bed, to be more secure from the air.

In the external treatment, it is very serviceable to rub the tumified part pretty strongly with the hands or cloths; and what is still preferable, to apply external maturative and emollient medicines, whereby they will come out the sooner; the patient will also find great benefit from the use of a cataplasm, made ex fermento panis callido, vel solo, vel cum sale atque sinapi contrito. To the external applications, it will be proper to join internal medicines, by the help of which the venom, lurking in the body, may be expelled in a gentle sweat; but such sudorific medicines, as are very strong and heating, have been always found dangerous and pernicious by modern physicians. In some cases, the tumour turns suddenly to suppuration, and in others it remains for some weeks, without being any thing softer. When this is the case, it is necessary to continue the use of the forementioned remedies, till the tumour either breaks of itself, or is fit to be opened, like other abscesses, by incision with the scalpel, that the pestilential matter may be discharged, and prevented from returning into the blood.

Venereal BUBO, a tumour with pain and inflammation, arising in the groin or armpits, after contact with an impure woman, who is afflicted with the venereal disease. The most certain signs of bubos being venereal, are, the patients having to do with these women, and from their being,

and having been, accompanied with gonorrhœas, chancres, or other symptoms of the venereal disease. With regard to the cure, there are many physicians who hold, that the dispersion of venereal bubos are equally improper, as in the pestilential; they therefore judge it necessary, to abstain entirely from bleeding, purging, and to forward the tumour to suppuration as fast as possible: however, others are for taking cathartic and mercurial medicines, together with a decoction of the woods, and other purifiers of the blood.

The dispersion is to be effected with large doses of merc. dulc. as is usual in carrying off gonorrhœas.

Externally to the tumour should be applied some discutient plasters, as those in the pestilential tumours: the patient should keep a regular diet and course of life, and should abstain from strong liquors.

The suppuration is to be promoted much in the same manner, as mentioned in the benign and pestilential tumour.

The internal medicines should be a decoction of the woods, two or three times a day, from eight to twelve ounces at a time, with thirty or forty drops of essent. lignor. pimpinellæ, albæ fumariz, &c.

It is to be opened as the pestilential bubo.

BUBON, in botany, a genus of the pentandria-digynia class of plants; the general corolla of which is uniform; the single flowers consist each of five oblong petals, of a lanceolated figure, and inflex; the fruit is naked, oval, striated, hairy, coronated, and separable into two parts; the seeds are two, oval, plane on one side, and on the other convex, striated, and hairy.

BUBONOCELE, or **HERNIA INGUINALIS**, in surgery, a tumour in the inguen, formed by a prolapsus of the intestines, omentum, or both, through the processes of the peritonæum, and rings of the abdominal muscles.

The bubonocèle may arise from two causes, viz. a relaxation of the peritonæum and rings of the abdominal muscles, or some violent contraction and pressure of the abdominal muscles upon the intestines, as in jumping, lifting of great weights, coughing, blowing a trumpet, riding on horse-back, a fall, &c.

When this disorder is formed insensibly, and by degrees, it is attended with but few and slight symptoms: when it arises from violent colds, exercises, eating too

plentifully of gross and flatulent food, which will exasperate the disorder, the consequence will be violent pain and inflammation, sickness, vomiting, and the iliac passion: it may be farther discovered from the tumour occasioned thereby in the groin, which proceeds up to the ring of the abdominal muscles; and when the intestine is not incarcerated, but returnable into the abdomen, the tumour subsides upon lying down. When the bubonocoele is incarcerated, so that the parts, forming the tumour, are not returnable into the abdomen, it usually appears with a greater resistance to the touch, redness, and inflammation.

These ruptures are often attended with danger, especially the incarcerated ones, in which, if the intestine be not timely returned, but the stricture continues two or three days, red and livid spots appear upon the tumour, which denote a sphacelus or mortification; and if an universal cold sweat seizes the patient, he has generally but a few hours to live. When the omentum alone falls down, there is less danger than when it is accompanied with the intestines.

When the intestine is returnable, the patient should be laid on his back, with his thigh a little bent, to relax the integuments; then the tumour is to be gently pressed, or returned with the hands and fingers, after which a plaster and compresse are to be applied to the part affected, and retained with a proper truss, and a girdle or bandage, without taking them off for several months, or longer, as there is occasion. See the article TRUSS.

When the intestine is not returnable, then the operation of incision becomes absolutely necessary, in order to dilate the parts. However, the surgeon may first try the repeated use of cataplasms, ointments, and laxative clysters, after bleeding; whereby the stricture is sometimes removed, and the intestine may be returned by the finger, without much difficulty.

BUCCANEERS, those who dry and smoke flesh or fish, after the manner of the Americans.

This name is particularly given to the french inhabitants of the island of St. Domingo, whose whole employment is to hunt bulls or wild boars, in order to sell the hides of the former, and the flesh of the latter.

The buccaneers are of two sorts: the buccaneers ox-hunters, or rather hunters of bulls and cows; and the buccaneers bear-hunters, who are simply called hun-

ters; though it seems, that such a name be less proper to them than to the former; since the latter smoke and dry the flesh of wild boars, which is properly called buccaneering, whereas the former prepare only the hides, which is done without buccaneering.

Buccaneering is a term taken from buccan, the place where they smoke their flesh or fish, after the manner of the savages, on a grate or hurdle, made of brasil wood, placed in the smoke, a considerable distance from the fire; this place is a hut, of about twenty-five or thirty feet in circumference, all surrounded and covered with palmetto leaves.

BUCELLARII, an order of soldiery under the greek emperors, appointed to guard and distribute the ammunition-bread; though authors are somewhat divided as to their office and quality. Among the Visigoths buccellarius was a general name for a client or vassal, who lived at the expence of his lord. Some give the denomination to parasites in the courts of princes, some make them the body guards of emperors, and some fancy they were only such as emperors employed in putting persons to death privately.

BUCCINA, an antient musical and military instrument. It is usually taken for a kind of trumpet, which opinion is confirmed by Festus, by his defining it a crooked horn, played on like a trumpet. Vegetius observes, that the buccina bent in a semicircle, in which respect it differed from the tuba or trumpet. It is very hard to distinguish it from the cornu or horn, unless it was something less, and not quite so crooked; yet it certainly was of a different species, because we never read of the cornu in use with the watch, but only the buccina. Besides, the sound of the buccina was sharper, and to be heard much farther, than either the cornu or the tuba. In scripture, the like instrument, used both in war and in the temple, was called rams-horns, kiren-jobel, and sopheroth hagijohelim.

BUCCINATOR, in anatomy, a muscle on each side of the face, common to the lips and cheeks. The origin of the buccinator is partly from the anterior and lower part of the coronoide process of the lower jaw, and partly about the roots of the posterior dentes molares of both jaws. Its progress, as the head is erect, is nearly horizontal; its termination is at the angle of the lips. Its uses are to bring the food into the way of the teeth, and

the salival duct of Steno perforates it in the middle.

BUCCINUM, the TRUMPET-SHELL, a genus of univalve shells; shaped, in some degree, like a horn, or other wind-instrument: the belly of the shell is distended, the aperture of the mouth is large, wide, and elongated, the tail is more or less long, and the clavicle more or less exterted.

This is a very numerous genus, the principal species of which are the spindle-shell, the mitre-shell, the midas-ear-shell, the great triton-shell, the tower of Babel-shell, &c. See plate XXXIII. fig. 1. where n° 1. represents the mitre-shell; n° 2. the rough buccinum; and n° 3. the tower of Babel-shell.

BUCENTAUR, a galeas, or large galley of the doge of Venice, adorned with fine pillars on both sides, and gilt over from the prow to the stern. This vessel is covered over head with a kind of tent, made of purple silk. In it the doge receives the great lords and persons of quality that go to Venice, accompanied with the ambassadors and counsellors of state, and all the senators seated on benches by him. The same vessel serves also in the magnificent ceremony of ascension day, on which the doge of Venice throws a ring into the sea to espouse it, and to denote his dominion over the gulph of Venice.

Bucentaur is also the name of a ship, as great and as magnificent as that of the Venetians, built by order of the elector of Bavaria, and launched on a lake, which is six leagues in length.

BUCEPHALON, in botany, a genus of plants, the class of which is not yet fully ascertained. There is no corolla: the fruit is an oval, but somewhat quadrangular berry, with one cell, containing a brittle seed.

BUCEROS, in ornithology, a genus of birds of the order of the picæ, common in several parts of the East-Indies: the beak towards its base has a large gibbosity rising above the rest of its surface, and turning backwards at the point; and the upper chap of the beak is in this genus considerably longer than the under. This genus comprehends no less than three species, the black buceros with a great head, or the Indian raven, &c.

BUCHAN, a country or district of Aberdeenshire, in Scotland: it gives the title of earl to the noble and antient family of Erskine,

BUCHAW, an imperial city of Swabia, in Germany, about twenty-five miles south-west of Ulm: east long. 9° 40', and north lat. 48° 5'.

BUCHNERA, in botany, a genus of the didynamia-angiospermia class of plants; the flower of which is monopetalous, with five equal and obversely cordated segments at its edge; the fruit is an ovato-oblong capsule, with two cells divided at the top, and containing numerous angulated seeds.

BUCHOREST, a town of Wallachia, subject to the Turks; east longitude 26° 30', and north latitude 44° 20'.

BUCHORN, a city of Swabia, in Germany, situated on the east side of the lake of Constance, and about twelve miles east of the city of Constance: east long. 9° 20', and north lat. 47° 40'.

BUCK, among sportsmen, in his first year, is called a fawn; the second, a pricket; the third, a sorel; the fourth, a fore; the fifth, a buck of the first head; and the sixth, a great buck. This beast is common in most countries, being copulent as a hart, but in size resembling more a roe, except in colour: the males have horns, which they lose yearly; the females none at all. As for the colour, it is very different; however, they are mostly branded and sandy, with a black list all along the back. Their flesh is excellent for nourishment.

BUCK-HUNTING. Less art and skill are required in lodging a buck, than in harbouring a hart; nor does there need so much drawing after: it is sufficient that you judge by the view, and mark what grove or covert he enters. When hard hunted, he usually takes to some strong hold he is acquainted with; not flying before the hounds, nor crossing, nor doubling, nor using any of the subtleties the hart is accustomed to. The buck herds more than the hart does, and chuses to lie in the driest places. He groans and trots as the hart belleteth, and with a worse noise and rattling in the throat, leaps higher at the rut than the stag. The bucks mew or shed their horns every year about April or May; and their new ones are burnished about the end of August. They make their sew-mishings in divers forms, according to the diversity of food; but they are most commonly round.

Now the greatest care of the huntsman must be employed in preventing the hunting counter or change, because of the

horns very thick at the base, but sharp at the point: the neck is thick and remarkably short; the flesh hangs very loose under the throat: the body is more bulky in proportion than in our bull; and the legs are thicker, but about equal in length. The colour is usually a blackish grey: but in this there is a great variety. The buffalo is a native of the east, but has been introduced into Italy, and some other parts of Europe, where it is kept as a beast of burden and draught.

The buffalo affords for trade, his horns, his hide, and his hair. Of the horns are made several turner's works, particularly beads for chaplets and snuff-boxes, which are pretty much valued. The hair being separated from the hide, by means of lime, is used as a sort of flocks. As to the hide, see the preceding article BUFF.

BUFFET was antiently a little apartment separated from the rest of the room by slender wooden columns, for the disposing of china, glass-ware, &c.

It is now properly a large table in a dining-room, called also a side-board, for the plate, glasses, bottles, basons, &c. to be placed on, as well for the service of the table, as for magnificence. In houses of persons of distinction in France, the buffet is a detached room, decorated with pictures relative to the subject, with fountains, cisterns and vases. It is commonly faced with marble or bronze.

BUFFOON, a droll or mimic who diverts the public by his pleasantries and follies.

BUFONIA, in botany, a genus of the diandria-digynia class of plants, the calyx of which is a permanent perianthium, consisting of four erect, subulate, carinated leaves: the corolla consists of four oval, linear, entire, erect, equal petals, shorter than the cup: the fruit is an oval compressed capsule, consisting of two valves, and containing one cell, in which are two oval compressed seeds.

BUFONITÆ, in natural-history, a kind of extraneous fossils, otherwise called lycodontes, or wolf's teeth. See the article LYCODONTES.

BUG, a river, which, taking its rise in red Russia in Poland, runs northward to Brestle; and then, turning westward, falls into the Weisel, or Vistula, below Warsaw.

BUG, or **BUGG**, in zoology, the english name of a genus of insects, called by authors cimices. See the article CIMEX.

The house bug, or *cimex lectularius*, so extremely troublesome about beds, is of a roundish figure, and of a dark cinnamon colour.

In order to destroy these vermin, let the bedsteads be washed with oil of turpentine, or painted over with verdigrise ground in linseed and oil of turpentine. Or, boil wormwood, rue, common oil, and water together, till the water is consumed; then, after straining, make it into an ointment with a good quantity of grease or sulphur: with this rub the chinks and other places, where the bugs are supposed to be. Or, mix hemp, oil, and ox-gall together; with which rub the bedstead all over, and the bugs will not come near it. Or, pound equal quantities of black soap and common soap together; then mixing as much of quicksilver with it, let the buggy places be rubbed with this mixture.

BUG is also a name sometimes given to the chermes insect. See CHERMES.

Green-house BUG, the coccus of the orange tree. See the article COCCUS.

BUGGASINS, in commerce, a name given to buckrams made of callico: these pay a duty on importation of 1s. 2³/₄d. the half piece; whereof 1s. 1³/₄d. is drawn back on exportation.

BUGGERS, in church-history, the same with bulgarians, a sect of heretics which amongst other errors held, that men ought to believe no scripture but the New Testament; that baptism was not necessary to infants; that husbands who converted with their wives, could not be saved; and that an oath was absolutely unlawful.

BUGGERY is defined by Sir Edward Coke to be a carnal copulation against nature, either by the confusion of species; that is to say, a man or woman with a brute beast; or sexes, as a man with a man, or man unnaturally with a woman. It is said, that this sin against God and nature, was first brought into England by the Lombards; and antiently, according to some writers, it was punishable with burning; but others say, with burying alive. It is, by statute, felony without benefit of clergy, and is always excepted out of a general pardon.

BUGIA, a port-town of the kingdom of Algiers, in Africa, situated about sixty miles east of the city of Algiers; east longitude 4°, north latitude 35° 36'.

BUGIE, a port-town of Egypt, situated on the western shore of the Red-sea, almost opposite

opposite to Ziden, the port-town to Mecca, and about 100 miles west of it; east long. 36° , north lat. 22° .

BUGLE, *ajuga*, in botany. See **AJUGA**.

BUGLOSS, *buglossum*, in botany, a name given to several very distinct genera of plants, as the anchusa, lycopsis, and asperugo. See the articles **ANCHUSA**, &c.

Viper's **BUGLOSS**, the english name of the echium of botanists. See **ECHIUM**.

BUILDING, a fabric erected by art, either for devotion, for magnificence, or for conveniency.

Regular **BUILDING** is that whose plan is square, the opposite sides equal, and the parts disposed with symmetry.

Irregular **BUILDING**, that whose plan is not contained with equal or parallel lines, either by the accident of situation, or the design of the builder, and whose parts are not relative to one another in the elevation.

Insulated **BUILDING**, that which is not contiguous to any other, but is encompassed with streets, open squares, or the like.

Engaged **BUILDING**, one surrounded with other buildings, having no front to any street or public place, nor any communication without, but by a common passage.

Interred or sunk **BUILDING**, one whose area is below the surface of the place on which it stands, and of which the lowest courses of stone are concealed.

With respect to their use, buildings take several denominations, as public buildings, private buildings, hydraulic buildings, &c. See **BASILIC**, **CHURCH**, **PALACE**, **HOUSE**, **FOUNTAIN**, &c.

BUILDING is also used for the art of constructing and raising an edifice; in which sense it comprehends as well the expences, as the invention and execution of the design. There are three things chiefly to be considered in the art of building, *viz.* conveniency, firmness, and delight. To accomplish which ends, Sir H. Wotton considers the subject under these two heads, the situation and the work. As to the situation, either that of the whole is to be considered, or that of its parts. In the first, regard must be had to the quality, temperature, and salubrity of the air; to the quality of the soil; to the conveniency of water, fuel, carriage, &c. and to the agreeableness of the prospect. To which may be added, a political precept or caution, by no means to build too near a great neighbour; for in that case, says the above-mentioned celebrated ar-

chitect, you would be as unfortunately seated on earth as Mercury is in the heavens, for the most part ever in combustion, or obscurity, under brighter beams than his own. As to the situation of the parts, the chief rooms, studies, and libraries, should lie towards the east; those offices which require heat, as kitchens, brew-houses, bake-houses, and distillatories, towards the south; those which require a cool fresh air, as cellars, pantries, granaries, to the north; as also galleries for paintings, museums, &c. which require a steady light. The antient Greeks and Romans generally situated the fronts of their houses towards the south; but the modern Italians vary very much from this rule. And indeed, as to this matter, regard must still be had to the country, each being obliged to provide against its own inconveniences.

The situation being fixed on, the next thing to be considered is the work itself, under which come first the principal parts, and next, the accessories or ornaments. To the principals belong the materials, and the form or disposition.

As for the materials, they are either stone, as marble, free-stone, brick for the walls, mortar, &c. or of wood, as fir, cypress, cedar for pillars of upright uses, oak for summers, beams and crop-work, or for joining and connection. See the articles **BRICK**, **MORTAR**, **SUMMER**, **BEAM**, &c.

As to the form and disposition of a building, it is either simple or mixed.

The simple forms are either circular, or angular.

The circular form is very commodious, and the most capacious of any, strong, durable, and very beautiful; but is the most chargeable of all others, and much room is lost by the bending of the walls, when it comes to be divided into apartments; besides an ill distribution of the light, unless it be from the center of the roof. For these reasons, the antients employed this form only in their temples and amphitheatres, which had no need of compartitions.

As for angular forms, building neither loves many nor few angles. The triangle is condemned above all others, as wanting both capaciousness and firmness, as also on account of its not being resolvable in the internal partitions, into any other figure than its own. Buildings with five, six, or more angles, are more fit for fortifications than civil edifices.

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The rectangle, therefore, is generally chosen, as being a medium between the triangle and a pentagon, &c. But then authors are in dispute, whether the rectangle should be an exact square, or an oblong; and Sir H. Wotton prefers the oblong, provided the length exceeds not the breadth by more than one third. As to mixed forms, partly circular, and partly angular, a judgment may be made of them, from what has been already said of simple ones. Let the builder, however, remember not to lose sight of uniformity, while he is in pursuit of variety; for these two may be very well reconciled, as may be observed in our bodies, which are uniform in the whole configuration; and yet some of the members are round, others flat; some prominent, and others indented, or retired.

Some observe, that in building houses long, the use of some rooms will be lost; as they will take up more for entries and passages, and will require too much for doors; and if the building be a geometrical square, the middle rooms will want light, in case the house be pretty large; and therefore they recommend the form of the letter H, a form, say they, in which the building stands firmer against the weather, and in which the offices may be remote from the parlour, and rooms of entertainment, and yet in the same house.

This figure may serve very well for a country gentleman's house.

The principal parts of a building, are comprized by Baptista Alberti, under five heads, *viz.* the foundation, the walls, the apertures, the partitions, and the covering; the properties and uses of which, may be seen under the articles FOUNDATION, WALL, ROOF, &c.

The accessories or ornaments of a building, are fetched from sculpture and painting. In the first, care ought to be taken that there be not too much of it, especially at the entrance; and that both in fine and coarse pieces of sculpture, and likewise in placing figures aloft, the rules of perspective be strictly observed.

In painting, the chief things to be regarded are, that the best pieces be placed in the best lights, and that they be suited to the intention of the rooms they are used in.

If we compare the modern with the old way of building in England, we cannot but wonder at the genius of those times. Our fore-fathers were wont to dwell in

houses most of them with a blind staircase, low ceilings, and dark windows; the rooms built at random, without any contrivance, and often with steps from one to another; whereas the genius of our times requires light stair-cases, fine sash-windows, and lofty ceilings, with conveniencies far superior to those that houses in antient days afforded upon an equal quantity of ground.

The greatest objection against our houses, especially in the city of London, is that they are too slight, on account of the fines exacted by the landlords; but then this manner of building is very much to the advantage of such trades as have relation to builders; for they scarce ever want work in a city where they are always either repairing or rebuilding.

The following general rules to be observed in building, were established by act of parliament, before the rebuilding of the city of London after the fire. 1. In every foundation within the ground, there must be added one brick in thickness, to the thickness of the wall next the foundation to be set off, in three courses equally on both sides. 2. No timber must be laid within twelve inches of the fore-side of the chimney jaumbs. 3. That all joists on the back of any chimney, be laid with a trimmer at six inches distance from the back. 4. That no timber be laid within the funnel of any chimney, upon penalty of ten shillings to the workman, and ten shillings every week it continues unreformed. 5. That no joists or rafters be laid at greater distances from one to the other, than twelve inches; and no quarters at a greater distance, than fourteen inches. 6. That no joists bear at longer length than nine feet. 7. That all roofs, window-frames, and cellar-floors, be made of oak. 8. That the tile-pins be made of oak. 9. That no summers or girders in brick-buildings, do lie over the heads of doors or windows. 10. That no summers or girders do lie less than ten inches into the brick-work; nor no joists less than eight inches, and that they be laid in loam.

Dr. Fuller gives us some good aphorisms in building, as, 1. Let not the common rooms be several, nor the several rooms common; that is, the common rooms are not to be private or retired, as the hall, galleries, &c. which are to be open; and the chambers, closets, &c. to be retired. 2. As to capaciousness, a house had better be too little for a day, than too big for

For a year, and therefore to be proportioned to ordinary not extraordinary occasions. 3. As for strength, country houses must be substantives, able to stand of themselves; not like city buildings, supported and flanked by those of their neighbour on each side. 4. As for beauty, let not the front look askint a stranger, but accost him right at his entrance. 5. Let the offices keep their due distance from the mansion-house; those are too familiar which presume to be of the same pile with it.

Section of a BUILDING. See SECTION.

BUL, in the antient hebrew chronology, the eighth month of the ecclesiastical, and the second of the civil year; it has since been called Marthevan, and answers to our October.

BULAC, a town of Egypt, situated on the eastern shore of the river Nile, about two miles west of Grand Cairo, of which it is the port-town, and contains about four thousand families; east long. 32°, and north latitude 30°.

It is a place of great trade, as all the vessels, going up and down the Nile, make some stay here: it is also in this place that they cut the banks of the Nile every year, in order to fill their canals, and overflow the neighbouring grounds, without which the soil would produce neither grain nor herbage.

BULAFU, a musical instrument consisting of several pipes of wood, tied together with thongs of leather so as to form a small interstice between each pipe. It is used by the negroes of Guinea.

BULB, or **BULBOUS ROOT**, in the anatomy of plants, expresses a root of a round or roundish figure, and usually furnished with fibres at its base.

Bulbous roots are said to be solid, when composed of one uniform lump of matter; tunicated, when formed of multitudes of coats, surrounding one another; squamose, when composed of, or covered with lesser flakes; duplicate, when there are only two to each plant; and aggregate, when there is a congeries of such roots to each plant.

BULBOCODIUM, in botany, a genus of the hexandria-monogynia class of plants, the flower of which consists of six petals of a funnel-form; the fruit is a triangular acuminate capsule, with three cells, containing numerous seeds. The root of this plant, according to Lemery, is purgative and aperitive; but Ray says it is emetic, and hurtful to the nerves. Mr.

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Herman says, the bruised leaves are good for an erysipelas.

BULBOSE, or **BULBOUS**. See the article **BULB**.

BULGAR, the capital of the province of Bulgar, in Russia, situated on the river Wolga; east longitude 51°, and north lat. 54°.

BULGARIA, a province of Turkey in Europe, bounded by the river Danube, which divides it from Wallachia and Moldavia on the north; by the Black sea, on the east; by Romania, on the south; and by Servia, on the west. Its chief city is Nicopolis.

BULIMY, a disease in which the patient is affected with an insatiable and perpetual desire of eating; and, unless he is indulged, he often falls into fainting fits. It is also called *fames canina*, canine appetite.

It must be observed, however, that some make a distinction between bulimy and *fames canina*, namely, that in the *fames canina* the patient is taken with vomiting, as dogs are after eating a too great quantity of food; though some are seized with a flux of the belly instead of vomiting, nature discharging that way the superfluity of aliment, which the stomach was incapable of digesting; but that the bulimy is attended with a lipothymy, and not with vomiting.

A bulimy arises from a too contractile force of the muscular coat of the stomach, or from very sharp humours contained in it. In some, the right mouth of the stomach has been found too large, after death, and consequently the aliment was expelled too soon.

As to the therapeutic part, in order to subdue the contractile force of the stomach, it is necessary to use oils and fat things, as fat meat, pork, hot bread and butter, likewise milk and lactinia, especially compositions of meal and milk, rice, millet, barley, buck-wheat, beans, peas, lentils, almonds, and the like; as also chocolate made with milk and sweetened with sugar. If these are insufficient, opiates must be added, particularly a dram of theriaca in the evening.

If the bulimy proceeds from sharp humours irritating the stomach, the most rational method of cure is to evacuate such humour, or correct its acrimony, and then to restore the stomach, and the organs employed in digestion, to their natural tone and state, that no more may be generated. Absorbents may be added to

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by all the princes of the empire, and remains still in force.

BULLÆ, in roman antiquity, ornaments at first given only to the sons of noblemen; though afterwards they became of more common use. This ornament was first given by Tarquinius with the prætexta to his son, who had, with his own hand, at fourteen years of age, killed an enemy. Thus we find the bulla was a sign of triumph. Macrobius relates, that the children of freed men were allowed to wear the prætexta, and, instead of the golden bulla, a leathern one, about their necks: those bullæ were made hollow within to inclose amulets against envy, &c. When the youth arrived at fifteen years of age, they hung up their bullæ about the necks of their gods Lares. We are farther informed, that the bullæ were not only hung about the necks of young men, but of horses also.

BULLET, an iron or leaden ball, or shot, wherewith fire arms are loaded. See the article **BALL**.

Bullets are of various kinds, *viz.* red-hot bullets, made hot in a forge, intended to set fire to places where combustible matters are found. Hollow bullets, or shells made cylindrical, with an aperture and fusee at one end, which giving fire to the inside, when in the ground, it bursts, and has the same effect with a mine. Chain-bullets, which consist of two balls, joined by a chain, three or four feet apart.

Branch-bullets, two balls joined by a bar of iron, five or six inches apart.

Two-headed bullets, called also angles, two halves of a bullet, joined by a bar or chain.

Cannon bullets are of different diameters and weight, according to the nature of the piece: an english musquet carries a bullet of sixteen in a pound; a carbine, of twenty-four; and a pistol of thirty-two in a pound; by which are to be understood ammunition carbines and pistols. According to Marsenne, a bullet, shot out of a great gun, flies 92 fathoms in a second of time, being equal to 589 $\frac{1}{2}$ english feet: but, according to some very accurate experiments of Mr. Derham, it only flies, at its first discharge, 510 yards in five half seconds.

BULLION, uncoined gold or silver in the mass.

Those metals are called so, either when melted from the native ore, and not

perfectly refined; or when they are perfectly refined, but melted down in bars or ingots, or in any unwrought body, of any degree of fineness.

When gold and silver are in their purity, they are so soft and flexible, that they cannot well be brought into any fashion for use, without being first reduced and hardened with an alloy of some other baser metal.

To prevent these abuses, which some might be tempted to commit in the making of such alloys, the legislators of civilized countries have ordained, that there shall be no more than a certain proportion of a baser metal to a particular quantity of pure gold or silver, in order to make them of the fineness of what is called the standard gold or silver of such a country.

According to the laws of England, all sorts of wrought plate in general, ought to be made to the legal standard; and the price of our standard gold and silver is the common rule whereby to set a value on their bullion, whether the same be in ingots, bars, dust, or in foreign specie: whence it is easy to conceive that the value of bullion cannot be exactly known, without being first assayed, that the exact quantity of pure metal therein contained may be determined, and consequently whether it be above or below the standard.

Silver and gold, whether coined or uncoined (though used for a common measure of other things) are no less a commodity, than wine, tobacco, or cloth; and may, in many cases, be exported as much to the national advantage as any other commodity.

BULLOCK, the same with an ox, or gelded bull. See the article **BULL**.

BULWARK, in the ancient fortification, the same with rampart. See **RAMPART**.

BUMICILLI, a religious sect of mahometans in Egypt and Barbary, who pretend to fight with devils, and commonly appear in a fright and covered with wounds and bruises. About the full moon they counterfeit a combat in the presence of all the people, which lasts for two or three hours, and is performed with assagaias, or javelins, till they fall down quite spent; in a little time however, they recover their spirits, get up, and walk away.

BUNCH, in a general sense, denotes a cluster of certain things, as of grapes.

BUNCH is also used for a tumour or excrescence: such is that which grows on the backs of camels.

BUNCHEd CODs, or **PODS**, those that stand out in knobs, wherein the seeds are lodged.

BUNCHEd ROOTs, all such as have knobs or knots on them.

BUNG, denotes the plug, or stopple, fitted to the opening of a cask, called the bung-hole.

After tunnning any fermented liquor, it is proper to leave the bung-hole open for sometime, otherwise the vessel would be in danger of bursting.

BUNGAY, a market town of Suffolk, situated on the river Wavenny, about thirty-two miles north-east of Bury: east lon. $1^{\circ} 35'$, and north latitude $52^{\circ} 35'$.

BUNIAS, **CORN ROCKET**, in botany, a genus of the tetradynamia-siliculosae class of plants, the flower of which consists of four petals in form of a cross; the fruit is an irregular pod with four sides, and terminated in sharp points, containing a roundish seed under each point. These seeds are said to be heating, drying, absterging, aperitive, and digestive, and to be enemies to venery.

BUNIAM, the **EARTH-NUT**, in botany, a genus of plants belonging to the pentandria-digynia class, the general flower of which is uniform, and the single flower consists of five inflexo-cordated equal petals: there is no pericarpium: the fruit is oval, and divisible into two parts; the seeds are two, and oval, convex on one side, and plane on the other.

BUNT of a sail, the middle part of it, formed designedly into a bag or cavity, that the sail may gather more wind. It is used mostly in top-sails, because courses are generally cut square, or with but small allowance for bunt or compass. The bunt holds much leeward wind, that is, it hangs much to leeward.

BUNT LINES are small lines made fast to the bottom of the sails, in the middle part of the bolt rope, to a cringle, and so are reeved through a small block, seized to the yard. Their use is to trice up the bunt of the sail, for the better furling it up.

BUNTING, in ornithology, the english name of the *emberiza*, a species of the *fringilla*. Its head somewhat resembles that of a rail; the chin, breast, and belly are of a yellowish white; the throat hath oblong black spots: the tail is more than three inches long, and of a dusky

red colour: it sings sitting upon the highest twigs of trees and shrubs. See plate XXXIV. fig. 1. and the article *EMBERIZA*.

BUNTINGFORD, a market-town of Hertfordshire, about twelve miles north of Hertford; west long. $5'$, and north lat. $51^{\circ} 55'$.

BUNTZLAU, or **BUNTZEL**, the name of two towns in Germany: the old town is situated on the river Elbe, and new town, which is become the most considerable, upon the Gizare, eight leagues from Lignitz, in $16^{\circ} 26'$ east longitude, and $51^{\circ} 12'$ north latitude. There is likewise a town of that name in Silesia.

BUONO, as **TEMPO BUONO**, in music, signifies a certain time or part of the measure, more proper for certain things than any other, as to end a cadence or pause, to place a long syllable or syncope dissonance, concord, &c. In common time of four times to a bar, the first and third is one *buono tempo*, as the second and last are called *tempo di cattiva*.

BUOY, at sea, a short piece of wood, or a close-hooped barrel, fastened so as to float directly over the anchor, that the men, who go in the boat to weigh the anchor, may know where it lies.

BUOY is also a piece of wood, or cork, sometimes an empty cask, well closed, swimming on the surface of the water, and fastened, by a chain or cord, to a large stone, piece of broken cannon, or the like, serving to mark the dangerous places near a coast, as rocks, shoals, wrecks of vessels, anchors, &c.

There are sometimes, instead of buoys, pieces of wood placed in form of masts, in conspicuous places; and sometimes large trees are planted in a particular manner, in number two at least, to be taken in a right line, the one hiding the other, so as the two may appear to the eye no more than one.

Stream the BUOY is to let the anchor fall while the ship has way.

To BUOY up the cable is to fasten some pieces of wood, barrels, &c. to the cable, near the anchor, that the cable may not touch the ground, in case it be foul or rocky, lest it should be fretted and cut off.

BUOYANT, something which, by its aptness to float, bears up other more ponderous and weighty things. See **BUOY**.

BUPHTHALMUM, **OX-EYE**, in botany, a genus of the syngenelia polygamia-superflua class of plants of Linnæus, comprehending the *asteriscus* and *asteroides* of Tourne-

Tourne-

Tournefort: the compound flower is large, radiated, and reddish on the back-side, but white within: the seeds are solitary, with the sides thereof emarginated, and contained in the cup: the proper hermaphrodite flower is infundibuliform, patulous, and divided into five segments at the limb. See plate XXXIV. fig. 2.

BUPLEURUM, **HARE'S-EAR**, in botany, a genus of the pentandria-digynia class of plants, the general flower of which is uniform; the proper one consists of five small cordated petals, bent inwardly: the fruit is round, compressed, striated, divisible into two cells, containing ovato-oblong striated seeds, convex on the one side, and plane on the other.

BUQUOI, a town of Artois, in the french Netherlands, situated on the confines of Picardy; east longitude $2^{\circ} 40'$, and north latitude $50^{\circ} 12'$.

BURDEN, or **BURDON**, in music, the drone or bass, and the pipe or string which plays it: hence that part of a song, that is repeated at the end of every stanza, is called the burden of it.

A cord which is to be divided, to perform the intervals of music, when open and undivided, is also called the burden.

BURDEN of a ship is its contents, or number of tons it will carry. The burden of a ship may be determined thus: multiply the length of the keel, taken within board, by the breadth of the ship, within board, taken from the midship-beam, from plank to plank, and multiply the product by the depth of the hold, taken from the plank below the keelson, to the under part of the upper-deck plank, and divide the last product by 94, then the quotient is the content of the tonnage required. See the article **FREIGHT**.

BURDOCK, in botany, the english name of two distinct genera of plants, the arctium and xanthium. See the articles **ARCTIUM** and **XANTHIUM**.

BUREN, a town of dutch Guelderland, about sixteen miles west of Nimeguen; east lon. $5^{\circ} 20'$, and north lat. 52° .

BUREN is also the name of a town of Westphalia, in Germany, about five miles south of the city of Paderborn; east lon. $8^{\circ} 25'$, and north latitude $51^{\circ} 35'$.

BURFORD, a market-town of Oxfordshire, about fifteen miles west of Oxford; west lon. $1^{\circ} 40'$, and north lat. $51^{\circ} 40'$. It gives the title of earl to the noble family of Beauclerc.

BURG, a town of Zutphen, in the dutch Netherlands, situated upon the old Issel,

about eighteen miles east of Nimeguen; east lon. $6^{\circ} 10'$, and north lat. 52° .

BURGAGE, an antient tenure in boroughs, whereby the inhabitants, by custom, hold their lands, &c. of the king, or other superior lord of the borough, at a certain yearly rent: also a dwelling house in a borough, was antiently called a burgage.

BURGESS, an inhabitant of a borough, or one who possesses a tenement therein.

In other countries, burgess and citizen are confounded together; but with us they are distinguished: the word is also applied to the magistrates of some towns.

Burgess is now ordinarily used for the representative of a borough-town in parliament.

BURGGRAVE properly denotes the hereditary governor of a castle or fortified town, chiefly in Germany.

BURGH, a term denoting the same with borough. See the article **BOROUGH**.

BURGH-BOTE signifies a contribution towards the building or repairing of castles, or walls, for the defence of a borough, or city.

BURGH-BRECHE is properly the breaking open a burgh, house, enclosure, &c. and in the laws of Canute, cap. lv. signifies a fine, imposed upon a community of a town, for a breach of the peace. According to Rastallus, burgh-breche is, to be quit of trespasses committed against the peace, in city or borough.

BURGHERMESTERS, the same with burgomasters. See **BURGOMASTER**.

BURGHMOTE, the court of a borough.

BURGLARY, a felonious breaking and entering into the dwelling-house of another person, in the night-time, with an intent to commit some felony, whether the same be executed, or not.

The like offence committed by day, is called house-breaking.

Burglary is an offence excluded the benefit of clergy, and may be committed by taking away goods from a dwelling-house, any person being therein; or breaking any shop, ware-house, &c. tho' in the day-time, and taking goods from thence of five shillings value, if no person be therein.

BURGLES, a town of Transilvania, about thirty miles north of Claufenburg, subject to the house of Austria; east long. $22^{\circ} 40'$, and north latitude $47^{\circ} 40'$.

BURGOMASTER, the chief magistrate of the great towns in Flanders, Holland, and Germany. The power and jurisdiction

dition of the burgomaster is not the same in all places, every town having its particular customs and regulations: at Amsterdam there are four chosen by the voices of all those people in the senate, who have either been burgomasters or echevins. Their authority resembles that of our lord-mayor and aldermen; they dispose of all under offices, that fall in their time, keep the key of the bank, and enjoy a salary but of five hundred guilders, all feasts, public entertainments, &c. being defrayed out of the common treasury.

BURGOO, a dish frequent at sea, being made of oat-meal, or greets, boiled in water till they burst, and then some butter added.

BURGOS, the capital of old Castile, in Spain, about one hundred and ten miles north of Madrid; west longitude $4^{\circ} 5'$, and north lat. $42^{\circ} 30'$.

BURGOW, a town of Swabia, in Germany, about twenty miles west of Augsburg; east long. $10^{\circ} 20'$, and north lat. $48^{\circ} 30'$.

BURGRAVE, or **BURGGRAVE**. See the article **BURGGRAVE**.

BURGUNDY, or **BURGOIGNE**, a province, or government, in France, having Champaign on the north, and Dauphine on the south.

BURIAL, the interment of a deceased person.

The rites of burial make the greatest and most necessary care, being looked upon in all countries, and at all times, as a debt so sacred, that such as neglected to discharge it were thought accursed: hence the Romans called them *justi*, and the Greeks *ῥησμοι*, *δικαιοι*, *ῥοιοι*, &c. words implying the inviolable obligations which nature has laid upon the living, to take care of the obsequies of the dead. Nor are we to wonder that the ancient Greeks and Romans were extremely solicitous about the interment of their deceased friends, since they were strongly persuaded, that their souls could not be admitted into the elysian fields till their bodies were committed to the earth; and if it happened that they never obtained the rites of burial, they were excluded from the happy mansions, for the term of an hundred years. For this reason it was considered as a duty incumbent upon all travellers who should meet with a dead body in their way, to cast dust or mould upon it three times, and of these three handfuls, one at least was cast upon the head. The

antients likewise considered it as a great misfortune if they were not laid in the sepulchres of their fathers; for which reason, such as died in foreign countries had usually their ashes brought home, and interred with those of their ancestors. But notwithstanding their great care in the burial of the dead, there were some persons whom they thought unworthy of that last office, and to whom therefore they refused it: such were 1. Public or private enemies. 2. Such as betrayed, or conspired against their country. 3. Tyrants, who were always looked upon as enemies to their country. 4. Villains guilty of sacrilege. 5. Such as died in debt, whose bodies belonged to their creditors. And, 6. Some particular offenders, who suffered capital punishment.

Of those who were allowed the rites of burial, some were distinguished by particular circumstances of disgrace attending their interment: thus persons killed by lightning were buried apart by themselves, being thought odious to the gods; those who wasted their patrimony, forfeited the right of being buried in the sepulchres of their fathers; and those who were guilty of self-murder were privately deposited in the ground, without the accustomed solemnities. Among the Jews, the privilege of burial was denied only to self-murderers, who were thrown out to rot upon the ground. In the christian church, though good men always desired the privilege of interment, yet they were not, like the heathens, so concerned for their bodies, as to think it any detriment to them, if either the barbarity of an enemy, or some other accident, deprived them of this privilege. The primitive christian church denied the more solemn rites of burial only to unbaptised persons, self-murderers, and excommunicated persons who continued obstinate and impenitent, in a manifest contempt of the church's censures.

The place of burial among the Jews was never particularly determined. We find they had graves in the town and country, upon the highways, in gardens, and upon mountains. Among the Greeks, the temples were made repositories for the dead in the primitive ages, yet the general custom in later ages, with them, as well as with the Romans and other heathen nations, was to bury their dead without their cities, and chiefly by the highways. Among the primitive christians, burying in cities was not allowed

for the first three hundred years, nor in churches for many ages after, the dead bodies being first deposited in the atrium or church-yard, and porches and porticos of the church: hereditary burying-places were forbidden till the twelfth century. As to the time of burial, with all the ceremonies accompanying it, see the article FUNERAL RITES, FUNERAL GAMES, &c.

BURICK, a town of the dutchy of Cleves, in the circle of Westphalia, in Germany, situated on the river Rhine, about twenty miles south of Cleves; east long. $6^{\circ} 5'$, and north latitude $51^{\circ} 35'$.

BURLESQUE, a jocose kind of poetry, chiefly used in the way of drollery and ridicule, to deride persons and things.

F. Vavassor maintains, in his book *De ludicra dictione*, that burlesque was altogether unknown to the antients: but others are of a different opinion. We even find that one Raintovius, in the time of Ptolemy Lagus, turned the serious subject of tragedy into ridicule; which is perhaps a better plea for the antiquity of farce, than of burlesque.

The Italians seem to have the justest claim to the invention of burlesque: the first of this kind was Bernia; who was followed by Lalli, Caporali, &c. From Italy it passed into France, and became there so much the mode, that, in 1649, there appeared a book under the title of *The Passion of our Saviour*, in burlesque verse. From thence it passed into England, where some have excelled therein.

BURLINGTON, a sea port town, in the east riding of Yorkshire, situated on the german ocean, about thirty-seven miles north-east of York; east long. $10'$, and north latitude $54^{\circ} 15'$.

It gave the title of earl to a branch of the noble family of Boyle.

New BURLINGTON, the capital of New-Jersey, in North America; situated in an island of Delawar river, about twenty miles north of Philadelphia; west long. 74° , and north lat. $40^{\circ} 40'$.

BURMANNIA, in botany, a genus of the hexandria-monogynia class of plants, the flower of which is very small, consisting of three very small, ovated, oblong petals, situated at the mouth of the cup: the fruit is an involuted capsule of a cylindraceo-trigonal figure, formed of three valves, with three cells, containing numerous very small seeds.

BURN, in medicine and surgery, an injury received in any part of the body, ei-

ther by fire itself, or by instruments put in a violent heat by the fire.

When any thing of this nature is applied to the body, the fibres and small vessels of the parts that are touched by it, will instantly corrugate and burst, whilst the blood and other contained fluids will be extravasated, stagnate, and corrupt: but as the burns caused by solid bodies, are always attended with more grievous consequences, than those which are occasioned with boiling liquors, so the mischief is universally proportioned to the degree of vehemence in the burn: we may therefore divide burns into four degrees; the first and slightest is that which occasions heat, pain, and a small vesication of the injured part, in a short time. The second degree is, when the part is instantly affected with great pain and vesication. The third is when the common integuments and subjacent flesh are so burnt, that they form a crust. The fourth is, where every thing is destroyed quite down to the bone. The third degree resembles a gangrene, and the fourth a sphacelus: whence it follows, that burns very much resemble inflammations, and are known, in their respective degrees, by nearly the same signs.

As a burn is not unlike an inflammation, in regard to degrees, so the method of cure in both is much the same. When there happens a slight burn, or one of the first degree, the most proper medicines, on all accounts, are resolvents, of which there are two kinds principally to be observed, the astringent and the emollient. Mild astringents are spirit of wine rectified, or camphorated: let the part affected be immersed in this spirit, and carefully fomented with linen cloths wet therein. Emollients are of linseed, or sweet almonds, of olives, of white lilies, of henbane, &c. with these the part affected should be frequently anointed. The vulgar method of applying the burnt part to a candle, or the fire, and keeping it in that position as long as you can bear it, repeating this process till all sort of heat and pain is removed, is frequently attended with success. The injured part may be fomented with water, as hot as the patient can bear it, till the pain and heat entirely disappear.

When the burn is of the second degree, which is attended with a blister, it seems improper to open the vesicle, or cut the skin already lacerated; but the best method, in this case, is, with all the haste possible,

possible, to apply one or other of the medicines prescribed in the first degree, and renewing it very frequently: if the pain continues, lenitive remedies are to be used; here the most eligible medicines are the linseed oil, Mynsicht's ointment, unguentum nutritum, &c. with these the part must be often anointed; or they must be spread on linen, and bound to the part affected: as the pain and heat gradually decrease, some plaster, as that of red lead, may be applied, in order to smooth and restore the skin. If this second degree be more intense than ordinary, and affects a great part of the body, it will be necessary forthwith to take away some blood, in proportion to the violence of the burn, even till the patient faints, in order to prevent exulcerations, deformities by seams, and perhaps a gangrene: after which a strong cathartic should be used.

As to the third degree, in which a crust immediately covers the burnt part, it is very difficult, if not absolutely impossible, to cure it, without a suppuration. When this happens in the face, all diligence should be used to prevent deformity, which may be occasioned by a large cicatrix; therefore, in this case, the use of all plasters and ointments whatsoever is to be avoided: but you cannot be too solicitous in forwarding the casting off of the eschar, or crust, and the evacuation of the matter that is concealed under it; yet it should not be torn away with the knife, nor separated with the hands: the easiest and most successful method is, by the use of emollients, such as have been mentioned already, applied warm, and repeated till the hard crusts separate from the live flesh; the part should be dressed two or three times a day, and at each dressing, if you should observe any portion of the crust tending to a separation from the rest, it should be removed with the forceps, and the remaining crust anointed with butter, at the same time being never neglectful of the use of fomentations. The crust being taken off, the wound must be cleansed and healed, the first of which offices may be executed by any mild digestive ointment, mixed up with mel rosarum: the medicines used for healing, are principally unguentum diapompholygos, vel de lithargyrio, &c. but if any portion of the eschar is left under these ointments and plasters, a danger follows of making a deformed cicatrix, from the constriction of the neighbour-

ing parts, and from the acrimony of the confined sanies. Evacuations by bleeding and purging are always to be premised, and proper regulations, with regard to diet, must be complied with: the best method of encouraging the renovation of the skin, is by frequently holding the burnt part over the steam that rises from boiling water. But as to the fourth degree, which is always attended with extreme danger, where the burning has penetrated to such a depth, as to corrupt and mortify all before it, almost to the very bone, all remedies are vain and useless, and there is no other way of assisting the patient, but by cutting off the affected limb, as is done in a sphacelus.

BURNET, in botany, the english name of the sanguisorba of botanical writers. See the article **SANGUISORBA**.

BURNET-SAXIFRAGE, or **PIMPERNEL-SAXIFRAGE**, *Pimpinella*. See the article **PIMPINELLA**.

BURNHAM, a market-town of Norfolk, about twenty-five miles north west of Norwich; east long. 50', and north lat. 53°.

BURNING, the action of fire on some *pabulum*, or fuel, by which the minute parts thereof are torn from each other, put into a violent motion, and some of them assuming the nature of fire themselves, fly off *in orbem*, while the rest are dissipated in form of vapour, or reduced to ashes. See the articles **FIRE**, **VAPOUR**, &c.

BURNING, or **BRENNING**, in our old customs, denotes an infectious disease, got in the stews by conversing with lewd women, and supposed to be the same with what we now call the venereal disease.

In a manuscript of the vocation of John Bale, to the bishopric of Ossory, written by himself, he speaks of Dr. Hugh Weston, who was dean of Windsor, in 1556, but deprived by cardinal Pole for adultery, thus: "At this day is lecherous Weston, who is more practised in the arts of breech-burning, than all the whores of the stews. He not long ago brent a beggar of St. Botolph's parish." See the article **STEWs**.

BURNING, in antiquity, a way of disposing of the dead, much practised by the ancient Greeks and Romans, and still retained by several nations in both the East and West-Indies.

Eustathius assigns two reasons why burning came to be of so general use in Greece; the first is, because bodies were thought to be unclean after the soul's departure, and

and therefore were purified with fire. The second reason is, that the soul being separated from the gross and unactive matter, might be at liberty to take its flight into heaven. The body was rarely burnt without company, for besides the various animals they threw upon the pile, we seldom find a man of quality consumed without a number of slaves and captives, which, in barbarous times, they used to murder for that purpose: and in some parts of the East-Indies it is customary, at this day, for wives to throw themselves into the funeral pile with their deceased husbands. At the funerals of emperors, generals, &c. who had their arms burnt with them, the soldiers made procession three times round the funeral pile with shouts and trumpets, to express their respect to the dead. During the burning also, the dead person's friends stood by, called on the deceased, and poured out libations of wine, with which, when the pile was burnt down, they extinguished the remains of the fire; and having collected the bones of the deceased, washed them with wine, and anointed them with oil. When the bones were discovered, they gathered the ashes that lay close to them, and both were reposed in urns, either of wood, stone, earth, silver, or gold, according to the quality of the deceased. See URN.

BURNING, among surgeons, denotes the same with cauterization. See the article CAUTERIZATION.

Burning is much practised by the people of the East-Indies, particularly those of Japan, who use the moxa for this purpose. See the article MOXA.

BURNING is also an appellation given to several diseases, on account of the great heat with which they are attended: thus we say, a burning fever, &c. See the articles FEVER and CAUSUS.

BURNING-ALIVE, in roman antiquity, a punishment inflicted upon such as deserted to the enemy, or divulged the secrets of the public, coiners of false money, incendiaries; and christians under Nero, were likewise burnt alive.

BURNING-GLASS, a convex or concave glass, commonly spherical, which being exposed directly to the sun, collects all the rays falling thereon into a very small space, called the focus; where wood, or any other combustible matter being put, will be set on fire.

The convex burning-glasses, transmit the rays of light, and in their passage, re-

fract or incline them towards the axis; having the property of lenses, and acting according to the laws of refraction. The concave burning-glasses, very improperly so called, being usually made of metal, reflect the rays of light, and in that reflection incline them to a point in their axis; having the property of mirrors, and acting according to the laws of reflection. See LENS, REFRACTION, MIRROR, REFLECTION.

In order to account for the nature of burning-glasses, whether mirrors or lenses, we must consider the area of their surfaces, and the focal distance, because both these quantities enter into the expression of their power of burning. Let AB and IK (plate XXXIV. fig. 3.) be two mirrors exposed directly to the rays of the sun CD, EF, and LM, NO; then will all the rays falling on the surface of these mirrors be reflected to the focus of the glasses, where they will be concentrated, not in a point of space, but into a small round circular area GH and PQ. Now this circular spot, is the image of the sun inverted in both glasses; and the angle under which the image of an object appears from the center of the glass R and S, is equal to the angle under which the object appears. Therefore the angle GRH, is equal to the angle PSQ; and consequently the cones GRH and PSQ are similar, and the areas of their base, GH and PQ, will be as the squares of their heights, RH and SQ; that is, as the squares of their focal distances directly. Let A = area of surface of the large glass; a = that of the lesser; F and f the focal distances, and P and p the power of burning in each. Then since, while the focal distance remains, the power of burning (P) will be as the density of the rays in the solar spot GH; and this density of the rays will be as the number of rays reflected thither by the glass, which number of rays will be as the surface of the mirror A; therefore, P will be as A directly in a mirror of the same concavity, that is $P : p :: A : a$. Again, if the area of each glass be the same, the same quantity of rays will be collected and converged to the focus's GH and PQ; and consequently the density of those rays will be greater, the less the spot is in which they are contained; consequently, the power of burning (P) in this case, is inversely as the area of the solar spot, or the focal distance; that is,

G g g

P will

P will be as $\frac{1}{F^2}$; or $P:p::\frac{1}{f^2}:\frac{1}{F^2}::f^2:F^2$:

F^2 . Consequently, when neither the area of the glass nor focal distance are given, we have the power of burning compounded of the direct ratio of the area, and inverse ratio of the square of the focal distance of the glass; or we have $P:p::Af^2:AF^2$. See the article FOCUS.

We have some extraordinary instances and surprizing accounts of the prodigious effects of burning-glasses. Those made of reflecting mirrors, are more powerful than those made with lenses (*ceteris paribus*) because the rays from a mirror, are reflected all to one point nearly; whereas by a lens, they are refracted to different points, and are therefore not so dense or ardent. The whiter also the metal or substance is, of which the mirror is made, the stronger will be the effect; and it is observable, that the great Mr. Boyle having made a very large mirror of black marble, it would not so much as set wood on fire, though exposed a long time in the focus.

The most remarkable burning-glasses, or rather mirrors, among the antients, were those of Archimedes and Proclus; by the first of which the roman ships, besieging Syracuse, according to the testimony of several writers, and by the other, the navy of Vitalian besieging Byzantium, were reduced to ashes. Among the moderns, the burning mirrors of greatest eminence, are those of Settala, of Vilette, and Tschernhausen, and the new complex one of Mr. de Buffon.

That of Mr. de Vilette, was three feet eleven inches in diameter, and its focal distance was three feet two inches. Its substance is a composition of tin, copper, and tin-glass. Some of its effects, as found by Dr. Harris and Dr. Defaguliers, are, that a silver sixpence, melted in $7\frac{1}{2}$ "; a king George's halfpenny melted in 16 ", and ran in 34 "; tin melted in 3 ", and a diamond weighing 4 grains, lost $\frac{2}{3}$ of its weight.

That of Mr. de Buffon is a polyhedron, six feet broad, and as many high, consisting of 168 small mirrors, or flat pieces of looking-glass, each six inches square; by means of which, with the faint rays of the sun in the month of March, he set on fire boards of beech wood at 150 feet distance. Besides, his machine has the conveniency of burn-

ing downwards, or horizontally, as one pleases; each speculum being moveable, so as, by the means of three screws, to be set to a proper inclination for directing the rays towards any given point; and it turns either in its greater focus, or in any nearer interval, which our common burning-glasses cannot do, their focus being fixed and determined.

Mr. de Buffon, at another time, burnt wood at the distance of 200 feet. He also melted tin and lead, at the distance of above 120 feet, and silver at 50.

Those who are curious to have a description of that of M. Tschernhausen, with an account of its powers, may consult the history of the academy of sciences, ann. 1699.

BURNING-MOUNTAINS, the same with volcanos. See the article VOLCANO.

BURNING of colours, among painters. There are several colours that require burning, as first, lamp-black, which is a colour of so greasy a nature, that except it is burnt, it will require a long time to dry.

The method of burning, or rather drying, lamp-black, is as follows: put it into a crucible over a clear fire, letting it remain till it be red hot, or so near it, that there is no manner of smoke arises from it.

Secondly, umber, which if it be intended for colour for an horse, or to be a shadow for gold, then burning fits it for both these purposes.

In order to burn umber, you must put it into the naked fire, in large lumps, and not take it out till it is thoroughly red hot; if you have a mind to be more curious, put it into a crucible, and keep it over the fire till it be red hot.

Ivory also must be burnt to make black, thus: fill two crucibles with shavings of ivory, then clap their two mouths together, and bind them fast with an iron wire, and lute the joints close with clay, salt, and horse-dung, well beaten together; then set it over the fire, covering it all over with coals: let it remain in the fire, till you are sure that the matter inclosed is thoroughly red hot: then take it out of the fire; but do not open the crucibles till they are perfectly cold; for were they opened while hot, the matter would turn to ashes; and so it will be, if the joints are not luted close.

BURNING of land, for corn. This art, usually called denshiring, or burnbeating,

is not applicable or necessary to all sorts of lands, but that which is barren, sour, heathy, and rushy; be it either hot or cold, wet or dry: insomuch, that most of them will yield, in two or three years after such burning, more above charges, than the inheritance was worth before. The common method for it is with a breast-plough to pare off the turf, turning it over, as it is cut, that it may dry the better, which in a hot season is not necessary. When the turfs are dry, they must be laid in small heaps, about two wheel-barrow loads together: if the turf does not burn without any additional fuel, the heap should be raised on a small bundle of ling, goss, fern, or the like, that it may set the whole on fire: when they are reduced to ashes, they should lie till they are sodden with rain, before they are spread. Care must be taken that the turf be not over burnt; for if it be reduced to white ashes, the nitrous salt will be wasted.

The ground under hills must be pared somewhat lower than the surface of the earth, to abate the too abundant fertility caused by the fire there: the land should be ploughed shallow only, and not above half the usual quantity of seed sown, which also should be late of the year; if wheat, towards the end of October, to prevent the excessive rankness of the corn.

BURNISHER, a round, polished piece of steel, serving to smooth and give a lustre to metals.

Of these there are different kinds of different figures, strait, crooked, &c. Half burnishers are used to solder silver, as well as to give a lustre. See the articles **POLISHER** and **SOLDERING**.

BURNISHING, the art of smoothing or polishing a metalline body, by a brisk rubbing of it with a burnisher. See the article **BURNISHER**.

Book-binders burnish the edges of their books, by rubbing them with a dog's tooth. Gold and silver are burnished, by rubbing them with a wolf's tooth, or by the bloody stone, or by tripoli, a piece of white wood, emery, and the like. Deer are said to burnish their heads, by rubbing off a downy white skin from their horns, against a tree.

BURNLEY, a market-town of Lancashire, about twenty-seven miles south-east of Lancaster; west longitude $2^{\circ} 5'$, and north latitude $53^{\circ} 40'$.

BURNT, something that has undergone

the operation of burning: thus we say, burnt alum, burnt lead, burnt wine, &c. see the articles **ALUM**, &c.

Burnt bodies are not only dry and astringent, but lose a great deal, if not all their other medicinal virtues.

BURR, the round knob of a horn next a deer's head.

BURRE, **BOUREE**, or **BOREE**, a kind of dance, composed of three steps joined together in two motions, begun with a crotchet rising. The first couplet contains twice four measures, the second twice eight. It consists of a ballance and coupee.

BURREGREG, a considerable river of the kingdom of Fez, in Africa; which taking its rise in the Atlas-mountains, falls into the ocean not far from the straits of Gibraltar.

BURR-PUMP, or **BILDGE-PUMP**, differs from the common pump, in having a staff 6, 7, or 8 feet long, with a bar of wood, whereto the leather is nailed, and this serves instead of a box. So two men, standing over the pump, thrust down this staff, to the middle whereof is fastened a rope, for 6, 8, or 10 to hale by, thus pulling it up and down.

BURROCK, a small wier or dam, where wheels are laid in a river, for the taking of fish.

BURROW, or **BOROUGH**. See the article **BOROUGH**.

BURROWS, holes in a warren, which serve as a covert for hares, rabbits, &c.

BURSA, or **PRUSA**, in geography, the capital of Bythinia, in Asia-Minor, situated in a fine fruitful plain, at the foot of mount Olympus, about an hundred miles south of Constantinople; east longitude 29° , north latitude $40^{\circ} 30'$.

BURSARS, in the scotch universities, are youths chosen as exhibitioners, and maintained for the space of four years at the rate of 100*l.* *per annum* Scots.

BURSE, in a commercial sense, a place for merchants to meet in, and negotiate their business publicly, with us called exchange. See the article **EXCHANGE**.

BURTON, in geography, the name of two market towns, the one in Staffordshire, and the other in Lincolnshire; the former being situated about eighteen miles east of Stafford, in $1^{\circ} 36'$ west longitude, and $52^{\circ} 40'$ north latitude, and the latter, thirty miles north of Lincoln, in $30'$ west longitude, and $53^{\circ} 40'$ north latitude.

BURTON is also the name of a market-town

in Westmoreland, about thirty miles south-west of Appleby; west longitude $2^{\circ} 35'$, and north latitude $54^{\circ} 10'$.

BURTON, in the sea-language, a small tackle consisting of two single blocks, and may be made fast any where at pleasure, for hoisting small things in and out; and will purchase more than a single tackle with two blocks.

BURY, in geography, a market-town of Lancashire, about thirty miles south-east of Lancaster; west longitude $2^{\circ} 20'$, north latitude $53^{\circ} 36'$.

BURY St. EDMUND'S, or **St. EDMUND'S**.

BURY, the county town of Suffolk, about twelve miles east of Newmarket, and seventy north-east of London; east longitude $45'$, and north latitude $52^{\circ} 20'$.

BURYING, the same with burial. See the article **BURIAL**.

BUSH, a term used for several shrubs of the same kind, growing close together: thus we say, a furze-bush, bramble-bush, &c.

It is sometimes used in a more general sense, for any assemblage of thick branches interwoven and mixed together.

Burning-BUSH, that bush wherein the Lord appeared to Moses at the foot of mount Horeb, as he was feeding his father-in-law's flocks.

As to the person that appeared in the bush, the scripture, in several places, calls him by the name of God: he says of himself, "that he is the Lord, the God who is the God of Abraham, Isaac, and Jacob, &c." And Moses, blessing Joseph, says, "let the blessing of him that dwelt in the bush, come upon the head of Joseph." But the hebrew and the greek septuagint import, that the angel of the Lord appeared to him. St. Stephen, and several others, read it in the same manner; and moreover some say, that it was an angel that represented the Lord: yet the antients hold the son of God to be the person that appeared in the bush.

The mahometans believe, that one of Moses's shoes, put off by him as he drew near the burning-bush, was placed in the ark of the covenant, in order to preserve the memory of this miracle.

BUSHEL, a measure of capacity for dry things, as grain, fruits, dry pulse, &c. containing four pecks, or eight gallons, or one-eighth of a quarter.

A bushel, by 12 Henry VII. c. 5. is to contain eight gallons of wheat; the gal-

lon eight pounds of troy-weight; the ounce twenty sterlings, and the sterling thirty-two grains, or corns of wheat growing in the midst of the ear. See the articles **MEASURE** and **WEIGHT**.

At Paris the bushel is divided into two half bushels; the half bushel into two quarts; the quart into two half quarts; the half quart into two litrons; and the litron into two half litrons. By a sentence of the provost of the merchants of Paris, the bushel is to be eight inches two lines and a half high, and ten inches in diameter; the quart, four inches nine lines high, and six inches nine lines wide; the half quart, four inches three lines high, and five inches diameter; the litron, three inches and a half high, and three inches ten lines in diameter. Three Bushels make a minot; six, a mine; twelve, a septier; and an hundred and forty-four, a muid. In other parts of France, the bushel varies.

Oats are measured in a double proportion to other grains, so that twenty four bushels of oats make a septier, and 288 a muid. The bushel of oats is divided into four picotins; the picotin into two half quarts, or four litrons. For salt, four bushels make one minot, and six a septier; for coals, eight bushels make one minot, sixteen a mine, and 320 a muid; for lime, three bushels make a minot, and forty-eight minots a muid.

BUSKIN, a kind of shoe, somewhat in manner of a boot, and adapted to either foot, and worn by either sex.

This part of dress, covering both the foot and mid-leg, was tied underneath the knee; it was very rich and fine, and principally used on the stage by actors in tragedy. It was of a quadrangular form, and the sole was so thick, as that by means thereof, men of the ordinary stature might be raised to the pitch and elevation of the heroes they personated. The colour was generally purple on the stages herein it was distinguished from the sock, worn in comedy, that being only a low common shoe. The buskin seems to have been worn, not only by actors, but by girls, to raise their height; travellers and hunters also made use of it, to defend themselves from the mire.

In classic authors, we frequently find the buskin used to signify tragedy itself, in regard it was a mark of tragedy on the stage. It is also to be understood for a lofty strain, or high stile.

BUSS, in maritime-affairs, a small sea vessel, used by us and the Dutch in the herring fishery, commonly from forty-eight to sixty tons burden, and sometimes more: a buss has two small sheds or cabbins, one at the prow, and the other at the stern; that at the prow serves for a kitchen.

Every buss has a master, an assistant, a mate, and seamen in proportion to the vessel's bigness: the master commands in chief, and without his express order, the nets cannot be cast, nor taken up; the assistant has the command after him; and the mate next, whose business is to see the seamen manage their rigging in a proper manner, to mind those who draw in their nets, and those who kill, gut, and cure the herrings, as they are taken out of the sea: the seamen do generally engage for a whole voyage in the lump. The provision which they take on board the busses, consist commonly in bisket, oat-meal, and dried or salt-fish; the crew being content for the rest with what fresh fish they catch. See **FISHERY**.

BUST, or **BUSTO**, in sculpture, &c. a term used for the figure or portrait of a person in relievo, shewing only the head, shoulders, and stomach, the arms being lopped off: it is usually placed on a pedestal or console.

M. Felibien observes, that tho', in painting, one may say a figure appears in busto, yet it is not properly called a bust; that word being confined to things in relievo. The bust is the same with what the latins called *berma*, from the Greek *hermes*, Mercury, the image of that god being frequently represented in that manner by the Athenians.

BUST is also used, especially by the Italians, for the trunk of a human body, from the neck to the hips.

BUSTARD, in ornithology, the english name of a genus of birds, called by authors *otis*. See the article **OTIS**.

BUSTUARI, in roman antiquity, gladiators who fought about the bustum, or funeral pile of a deceased person of distinction, in the ceremony of his obsequies.

This custom was found to be less barbarous than the first practice was of sacrificing captives at the bustum, or on the tomb of warriors; instances whereof we meet with both in roman and greek antiquities: the blood spilt on this occasion, was supposed to appease, by way of

sacrifice, the infernal gods, that they might be more propitious to the manes of the deceased.

BUSTUARIÆ MOECHÆ, according to some, women that were hired to accompany the funeral, and lament the loss of the deceased: but others are of opinion, that they were rather the more common prostitutes, that stood among the tombs, graves; and other such lonely places.

BUSTUM, in antiquity, a pyramid or pile of wood, upon which were antiently placed the bodies of the deceased, in order to be burnt. Some authors say, that it was properly called bustum after the burning, *quasi beneustum*; that before the burning it was called *pyra*, and during the burning, *rogus*. See **BURNING**. The bustum in the Campus Martius was encompassed round with white stone, and an iron rail.

BUT, or **BUTT**. See the article **BUTT**.

BUTCHER, a person who slaughters cattle for the use of the table, or who cuts up and retails the same.

Among the antient Romans, there were three kinds of established butchers, whose office was to furnish the city with the necessary cattle, and to take care of preparing and vending their flesh. The *suarii* provided hogs; the *pecuarii* or *boarii*, other cattle, especially oxen; and under these was a subordinate class whose office was to kill, called *lanii*, and *carnifices*. To exercise the office of butcher among the Jews with dexterity, was of more reputation than to understand the liberal arts and sciences. They have a book concerning shamle-constitution; and in case of any difficulty, they apply to some learned rabbi for advice: nor was any allowed to practise this art, without a license in form; which gave the man, upon evidence of his abilities, a power to kill meat, and others to eat what he killed; provided he carefully read every week for one year, and every month the next year, and once a quarter during his life, the constitution above-mentioned. We have some very good laws for the better regulation and preventing the abuses committed by butchers. A butcher that sells swine's flesh meazled, or dead of the murrain; for the first offence shall be amerced; for the second, have the pillory; for the third be imprisoned and make fine; and for the fourth, abjure the town. Butchers not selling meat at reasonable prices, shall forfeit double the value,

value, leviable by warrant of two justices of the peace. No butcher shall kill any flesh in his scalding-house, or within the walls of London, on pain to forfeit for every ox so killed, 12d. and for every other beast, 8d. to be divided betwixt the king and the prosecutor.

BUTCHER-BIRD, in ornithology, the english name of the *lanius*. See **LANIUS**.

BUTCHER'S-BROOM, *ruscus*, in botany. See the article **RUSCUS**.

BUTE, an island of Scotland, lying in the mouth of the frith of Clyde, south of Cowal in Argyleshire. It gives the title of earl to a branch of the Stuart family. Bute and Cathness send only one member to parliament between them, each chusing in its turn, whereof Bute has the first choice.

BUTEO, the **BUZZARD**, in ornithology, a bird of the hawk-kind, about the size of a small pullet, the beak of which is of a bluish black, and covered with a yellow membrane down to the nostrils.

BUTLER, *buticularius*, the name antiently given to an officer in the court of France, being the same as the grand echançon, or great cup-bearer of the present times.

BUTLER, in the common acceptation of the word, is an officer in the houses of princes and great men, whose principal business is to look after the wine, plate, &c.

BUTLERAGE of wine is a duty of two shillings for every ton of wine imported by merchants strangers; being a composition in lieu of the liberties and freedoms granted to them by king John and Edward I. by a charter called *charta mercatoria*.

Butlerage was originally the only custom that was payable upon the importation of wines, and was taken and received by virtue of the regal prerogative, for the proper use of the crown. But for many years past, there having been granted by parliament subsidies to the kings of England, and the duty of butlerage not repealed, but confirmed, they have been pleased to grant the same away to some nobleman, who, by virtue of such grant, is to enjoy the full benefit and advantage thereof, and may cause the same to be collected in the same manner that the kings themselves were formerly wont to do.

BUTMENTS, in architecture, those supporters or props on or against which the feet of arches rest. See **BRIDGE**.

BUTMENT is also the term given to little places taken out of the yard or ground-plot of a house, for a buttery, scullery, &c.

BUTOMUS, the **FLOWERING-BUSH**, in botany, a genus of plants of the enneandria hexagynia class, the flower of which consists of six roundish, concave, fading petals, alternately exterior, smaller, and more acute: the fruit consists of six oblong, gradually attenuated capsules, erect, of one valve, opening inwards, and containing several oblong cylindric seeds, obtuse at both ends. The herb is said to be of an aperient and deobstruent quality. See plate XXXIV. fig. 4.

BUTRINTO, a port-town of Epirus, or Canina, in Turkey, in Europe, situated opposite to the island of Corfu, at the entrance of the gulph of Venice; east longitude 20° 40', north latitude 39° 45'.

BUTT, in commerce, a vessel or measure of wine, containing two hogheads, or 126 gallons. See the article **PIPE**.

BUTT, or **BUTT-ENDS**, in the sea language, are the fore-ends of all planks under water, as they rise, and are joined one end to another.

Butt-ends in great ships are most carefully bolted; for if any one of them should spring or give way, the leak would be very dangerous and difficult to stop.

BUTTER, a fat unctuous substance, prepared from milk by heating or churning it.

It was late before the Greeks appear to have had any notion of butter; their poets make no mention of it, and yet are frequently speaking of milk and cheese. The Romans used butter no otherwise than as a medicine, never as a food. The antient christians of Egypt burnt butter in their lamps instead of oil; and in the roman churches, it was antiently allowed, during christmas time, to burn butter instead of oil, on account of the great consumption of it other ways.

For the making of butter, when it has been churned, open the churn, and with both hands gather it well together, take it out of the butter-milk, and lay it into a very clean bowl, or earthen pan; and if the butter be designed to be used sweet, fill the pan with clear water, and work the butter in it to and fro, till it is brought to a firm consistence of itself, without any moisture. When this has been done, it must be scotched and sliced over with the point of a knife, every way as thick

as possible, in order to fetch out the smallest hair, mote, bit of rag, strainer, or any thing that may have happened to fall into it. Then spread it thin in a bowl and work it well together, with such quantity of salt as you think fit, and make it up into dishes, pounds, half pounds, &c. The newer the butter is, the more wholesome and pleasant it is; and that which is made in May, is esteemed the best.

Butter, by the texture and nature of its substance, tends to relax the solids, and supplies the juices with light and adhesive particles. Upon the first account, it may be good in dry and costive constitutions; but must be hurtful in lax, moist, and corpulent ones. By the levity and tenacity of its parts, it is also very apt to stop in the glands and capillaries; by which means it fouls the viscera, but particularly the small glands of the skin; hence it is apt to produce blotches, and all cutaneous diseases.

There are as many sorts of butter, as there are different milks of animals whereof to make it: that of the cow is most in use. It is used every where, and there is hardly any sauce made without it. The northern people, however, make more use of it than others.

Every barrel of butter, imported from abroad, pays a duty of 3s. 10 $\frac{2}{10}$ d. whereof 3s. 4 $\frac{1}{2}$ d. is drawn back on exporting it. Irish butter pays only a duty of 1s. 11 $\frac{1}{10}$ d. the hundred weight; whereof 1s. 8 $\frac{5}{10}$ d. is drawn back on exporting it.

BUTTER, among chemists, a name given to several preparations, on account of their consistence resembling that of butter; as butter of antimony, of arsenic, of wax, of lead, of tin, &c.

BUTTER-BUR, in botany, the english name of a genus of plants, called by authors petasites. See the article **PETASITES**.

BUTTER-FISH, a name given to the gunnellus of authors. See **GUNNELLUS**.

BUTTERFLY, the english name of a numerous genus of insects, called by zoologists papilio. See the article **PAPILIO**.

BUTTERFLY-FISH, a species of the blennius of ichthyologists, with a furrow between the eyes. See **BLENNIUS**.

BUTTERFLY-SHELL, in natural history, the english name of a species of voluta.

BUTTERIS, in the manege, an instrument of steel, fitted to a wooden handle, wherewith they pare the foot, or cut the hoof of a horse,

BUTTER-MILK, a kind of serum that remains behind, after the butter is made. Of this curds may be made, which are good when eat either with cream, wine, ale or beer. And the whey kept in a clean strong vessel, is an excellent cooling, wholesome drink, to be used in the summer instead of other drink, and will quench the thirst better than beer.

Butter-milk is esteemed an excellent food, in the spring especially, and is particularly recommended in hectic fevers.

BUTTER-WORT, in botany, the english name of a distinct genus of plants, called by botanists pingicula. See the article **PINGICULA**.

BUTTERY, a room in the houses of noblemen and gentlemen, belonging to the butler, where he deposits the utensils belonging to his office, as table linen, napkins, pots, tankards, glasses, cruets, salvers, spoons, knives, forks, pepper, mustard, &c.

As to its position, Sir Henry Wotton says, it ought to be placed on the north side of the building, which is designed for offices. In England we generally place it near the cellar, viz. the room commonly just on the top of the cellar stairs.

BUTTOCK OF A SHIP, is that part of her, which is her breadth right a-stern, from the tack upwards; and a ship is said to have a broad or a narrow buttock, according as she is built, broad or narrow at the transum.

BUTTON, an article of dress, serving to fasten cloaths tight about the body, made of metal, silk, mohair, &c. in various forms. Metal buttons are either cast in moulds, in the manner of other small works, (See **FOUNDRY**) or made of thin plates of gold, silver, or brass, whose structure is very ingenious, though but of little use.

Buttons of all sorts are prohibited to be imported.

BUTTON, among gardeners, denotes much the same with bud. See the article **BUD**.

BUTTON, in the manege. Button of the reins of a bridle is a ring of leather, with the reins passed through it, which runs all along the length of the reins. To put a horse under the button is, when a horse is stopped without a rider upon his back, the reins being laid on his neck, and the button lowered so far down, that the reins bring in the horse's head, and fix it to the true posture or carriage. It is not only the horses, which are managed in the hand,

hand, that must be put under the button; for the same method must be taken with such horses as are bred between two pillars, before they are backed.

BUTTON'S-BAY, the name of the north part of Hudson's-bay, in North America, whereby Sir Thomas Button attempted to find out a north-west passage to the East Indies. It lies between 80° and 100° west longitude, and between 60° and 66° north latitude.

BUTTON-TREE, a name sometimes given to two very distinct genusses of plants, the *platanus* and *cephalanthus*.

BUTTON-TREE of Jamaica, the same with the *conocarpus* of botanists.

BUTTRESS, a kind of butment built archwise, or a mass of stone or brick, serving to prop or support the sides of a building, wall, &c. on the outside, where it is either very high, or has any considerable load to sustain on the other side, as a bank of earth, &c.

Buttresses are used against the angles of steeples and other buildings of stone, &c. on the outside, and along the walls of such buildings as have great and heavy roofs, which would be subject to thrust the walls out, unless very thick, if no buttresses were placed against them: they are also placed for a support and butment against the feet of some arches, that are turned across great halls, in old palaces, abbeys, &c.

The theory and rules of buttresses are one of the desiderata in architecture; but the size and weight of them ought to be in proportion to the dimensions and form of the arch, and the weight which is superincumbent on it.

As to the weight of the materials, both on the arch and in the buttress, it is not difficult to calculate: but it may be objected, that there may be a sensible difference, as to the strength and goodness of the mortar, which may, in some measure, compensate for the weight of the buttress.

BUTZAW, a town of lower Saxony, in Germany: it stands upon the river Varnow, on the road from Schwerin to Rostock.

BUXTON, a place in the peak of Derbyshire, celebrated for medicinal waters; the hottest in England, next to Bath.

BUXTON-WELLS. The strata of earth and minerals, in the parts adjacent to Buxton, are peat moss, blue clay, iron, and coal, mixed with sulphur, and brimstone. See the article **BATH**.

The warm waters there, at present, are

the bath, which takes in several warm springs, St. Ann's-well, a hot and cold spring rising up into the same receptacle, and Bingham-well.

These waters greatly promote digestion, unless they are drank too long, in which case they relax the stomach, and retard all the digestion: they are well adapted to obstructions of every kind, whence they produce surprizing effects in gouty, rheumatic, athritic and scorbutic pains: their irritation and effects are relaxation and dilution, and wherever these are indicated, this water will be of the greatest service: it is of great benefit in those obstructions, which arise from a sharpness, saltiness, or earthiness of the blood and lymph, or from an accidental disposition to a rarefaction of the blood. As this water is warm, highly impregnated with a mineral steam, vapour, or spirit; it is signally beneficial to cramps, convulsions, dry asthma, bilious cholic, stiffness, &c. They advise both drinking and bathing in the use of these waters; only the last is of bad consequence in the gout, inward inflammations, fevers, dysentery, large inward tumours, or in an outward pressure of the body.

As to the age, sex, and constitution of the patient, the particular lightness and purity of these waters recommend their use, as safe and successful to almost every body in whatever circumstances.

BUXUS, the **BOX-TREE**, in botany, a genus of the monoecia tetrandria class of plant, in which the male and female flowers are distinct; the former consisting of only two roundish petals, somewhat larger than those of the cup, to which, however, they bear a very great resemblance; whereas the latter, or female flower, consists of three such petals. The fruit is a roundish trilocular capsule, containing two oblong seeds, roundish on one side and plain on the other.

BUYS, a town of Dauphine, in France, situated on the confines of Provence: east longitude $5^{\circ} 20'$, and north latitude $44^{\circ} 25'$.

BUZZARD, *buteo*, in ornithology, the english name of several species of the hawk-kind, distinguished from each other by particular epithets; as, 1. The bald-buzzard, with blue legs. 2. The common buzzard. 3. The honey-buzzard. 4. The subbuteo, or the hen-harrier, and the ring-tail. 5. The moor-buzzard. See the common buzzard represented in plate XXXIV. fig. 5.

BYGHOF, or **BYGOW**, a city of Lithuania,

Fig. 1. BUNTING.



Fig. 2. BUPHTHALMUM.

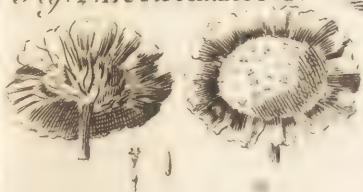


Fig. 3. BURNING GLASSES.

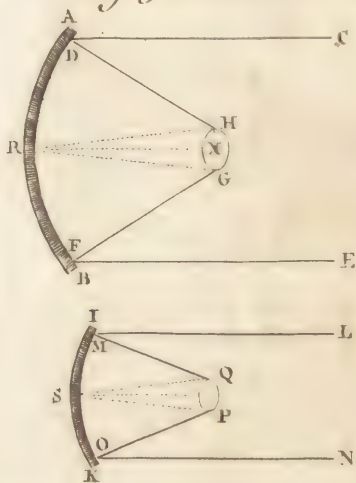


Fig. 4. BUTOMUS.



Fig. 5. BUZZARD.



Fig. 6. BYSSUS.





ania, in Poland, situated on the river Nieper: east longitude 30° , and north latitude 53° .

BY-LAWS, or **BYE-LAWS**, private and peculiar laws for the good government of a city, court, or other community, made by the general consent of the members. All by-laws are to be reasonable, and for the common benefit, not private advantage of any particular persons, and must be agreeable to the public laws in being. If made by corporations, they are to be approved by the lord-chancellor or chief justices, or justices of assize, on pain of $40l.$ if against the good of the public.

But it is said, a corporation cannot make by-laws without a custom for it, or the king's charter; nor may they make any by-law to bind strangers that live out of their corporation, or to restrain a person from working in or setting up his trade, though it may be for the order and regulating of trades; and notwithstanding such a by-law may inflict a reasonable penalty, which may be recovered by distress or action of debt, yet none can be imprisoned upon it, as it is contrary to *magna charta*.

BYRLAW, or **BURLAW LAWS**, in Scotland, are made and determined by neighbours, elected by common consent in byrlaw courts. The men, chosen as judges, are called byrlaw or burlaw-men, and take cognizance of complaints between neighbour and neighbour.

BYSSUS, in botany, a genus of mosses, consisting of plain, simple, capillary filaments.

The byssus is the most imperfect of all vegetables, no part of its fructification having been hitherto discovered: its filaments are uniform, and often so fine as to be scarce discernible singly; though, in a cluster, they make a kind of fine down. Botanists are not agreed, whether the byssus be properly a moss or fungus. Linnæus is of the latter opinion, and the generality of botanists of the former. Dillenius thinks it is of a middle nature between both.

This difference of opinion probably arose from hence, that authors have confounded two very distinct vegetables under the name byssus; the one, the filamentose bodies, described above, which are the only true byssi; and the other, the dusty matter found on rotten vegetables, consisting of small globules, which are truly fungi, or mushrooms. See plate XXXIV. fig. 6.

The byssi are nearly allied to the conservæ; from which, however, they differ, as consisting of finer, shorter, and more tender filaments, and not growing in water, as the conservæ do.

BYSSUS, in antiquity, that fine egyptian linen, whereof the tunics of the jewish priests were made.

Philo says, that the byssus is the clearest and most beautiful, the whitest, strongest, and most glossy sort of linen; that it is not made of any thing mortal, that is to say, of wool, or the skin of any animal, but that it comes out of the earth, and becomes always whiter, and more shining, when it is washed as it should be.



C

C, The third letter, and second consonant of the alphabet, is formed by forcing the breath between the tongue, elevated near the palate (to make the voice somewhat sibilous) with the lips open. It has two sounds, hard and soft; hard, like *k* before *a*, *o*, *u*, *l*, and *r*; as in call, cost, cup, clean, crop; and soft, like *s* before *i*, *e*, and *y*; as in city, cession, cyder: before *h* it has a peculiar sound, as in chance, chalk: in chord, chart, and some other words, it is hard like *k*: but in many French words it is soft before *h*, like *s*, as in chaise, chagrin. As an abbreviature, *C* stands for *Cains*,

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Carolus, Cæsar, *condemno*, &c. and *C C* for *consulibus*.

As a numeral, *C* signifies 100, *CC* 200, &c.

Among the French, *C* stands for *compte*, account; *C. C.* for *compte courant*, account current; *M. C.* *mon compte*, my account; *C. O.* *compte ouvert*, open account; *S. C.* *son compte*, his account; *L. C.* *leur compte*, their account; *N. C.* *notre compte*, our account, &c.

C, in music, the highest part in the thorough bass; again, a simple *C*, or rather a semicircle, placed after the cleff, intimates, that the music is in common

H h h

time,

time, which is either quick or slow, as it is joined with *alegro* or *adagio*: if alone, it is usually *adagio*.

If the C be crossed or turned, the first requires the air to be played quick, and the last very quick.

CAABA, or **CAABAH**, properly signifies a square building; but is particularly applied by the Mahometans, to the temple of Mecca, built, as they pretend, by Abraham, and Ishmael his son. It is towards this temple they always turn their faces when they pray, in whatever part of the world they happen to be. The Mahometans will have the caaba to have been a place of worship in Adam's days: at first it was only a tent, which had been sent down from heaven, as a proper place wherein to worship the true God. It was accordingly often visited by Adam on that account, as well as by Seth his son, who first built a stone temple on the spot. This having been demolished by the deluge, was afterwards rebuilt by Abraham and Ishmael. The tradition adds, that it was on occasion of Abraham's sacrifice of his son Ishmael, that this edifice was raised by order of God himself; and that the horns of the ram, which had been sacrificed in Ishmael's place, were fastened to the golden spout of the caaba, where they continued to the time of Mahomet, who took them away, to remove from the Arabs all occasion of idolatry.

The length of the caaba is about twenty-four cubits, its breadth twenty-three, and height twenty-seven cubits; the door which is on the east-side, being four cubits from the ground, and the floor level with the bottom of the door. In the corner next this door, is the famous black stone, which is set in silver, and exceedingly respected by the Mahometans. The pilgrims kiss it with great devotion, and it is by some called the right-hand of God on earth. It is fabled to be one of the precious stones of Paradise, which fell down to the earth with Adam, and being taken up again at the deluge, was brought back by the angel Gabriel to Abraham when he was building the caaba. It was at first whiter than milk, but grew black long ago; some say by the touch of a menstruous woman, others by the sins of mankind, others by the numerous kisses of the devotees. On the north-side of the caaba, within a semicircular inclosure, lies the white stone, said to be the sepulchre of Ishmael, which receives the rain water that falls off the caa-

ba, by a spout formerly of wood, but now of gold. The caaba has a double roof, supported within by three octangular pillars of aloes wood, between which, on a bar of iron, hang some silver lamps. The outside is covered with rich black damask, adorned with an embroidered border of gold, which is changed every year, and was formerly sent by the caliphs, afterwards by the sultans of Egypt, but now provided by the turkish emperors. At a small distance from the caaba, on the east side is the station or place of Abraham, where is another stone wherein they pretend to shew the footsteps of that patriarch, supposed to have been made when he stood on it in building the caaba, where it served him for a scaffold, with this peculiar advantage, that it rose and fell of itself as he had occasion.

This temple enjoys the privilege of an assylum for all sorts of criminals; but it is most remarkable for the pilgrimages made to it by the devout Mussulmen, who pay so great a veneration to it, that they believe a single sight of its sacred walls, without any particular act of devotion, is as meritorious, in the sight of God, as the most careful discharge of one's duty, for the space of a whole year, in any other temple.

CAB, an hebrew dry measure, being the sixth part of a seah or satum, and the eighteenth part of an epha: a cab contained 25 pints of our corn measure: a quarter-cab was the measure of dove's dung, or more properly a sort of chick-pease, called by this name, which was sold at Samaria, during the siege of that city, for five shekels.

CABBAGE, a species of brassica. See the article **BRASSICA**.

There are several sorts of cabbages cultivated in the gardens for the use of the kitchen, as the common white and red cabbages, the russian cabbage, the battersea and sugar-loaf cabbages, the savoy cabbages; the borecole, the cauliflower, the broccoli, &c.

The manner of sowing the seeds of all the best sorts of cabbages is, to make choice of your best cabbages about the middle of November, and these being pulled up, should be carried to some shed, and hung for three or four days by the stalks, that the water may drain from between the leaves; then plant them in some border, under an hedge, quite down to the middle of the cabbage.

If the winter should prove very hard, you should lay a little straw or pease-haulm lightly upon them, taking it off as often as the weather proves mild. In the spring, when these cabbages shoot out strongly, and divide into a number of smaller branches, you must support their stems; and if the weather should prove very hot and dry, you should refresh them with water once a week: when the tops begin to look brown, cut off the extreme part of every shoot; and when your seeds begin to ripen, you must take care that the birds do not destroy it, as they are very fond of these seeds: in order to prevent which, some throw old nets over their seeds; but the best method is, to get a quantity of bird-lime, and dawb over a parcel of slender twigs, fastened at each end to stronger sticks, placed near the upper part of the seed, that the birds may alight upon them, and by that means be fastened thereto: when the seeds are fully ripe, you must cut them off, and, after drying, thresh them out, and preserve them in bags for use. In Holland and Flanders, there are an incredible number of mills, for preparing an oil from the seeds of reddish cabbages, said to be good for several purposes.

Sea-CABBAGE, a name by which the crambe of botanists is sometimes called. See the article CRAMBE.

CABBAGE-TREE, a name sometimes given to the palm-tree, called by Linnæus, phoenix. See the article PHOENIX.

CABBAGING, among gardeners, a term used for the knitting of cabbages into round heads. See the article CABBAGE.

CABBALA, properly signifies tradition, and is the name of a mysterious kind of science, thought to have been delivered by revelation to the antient Jews, and transmitted by oral tradition to those of our times; serving for the interpretation of the books both of nature and scripture. The manner in which Maimonides explains the cabbala, or traditions of the Jews, in his preface to the Mishna, is as follows: 'God not only delivered the law to Moses on Mount Sinai, but the explanation of it likewise. When Moses came down from the Mount, and entered into his tent, Aaron went to visit him, and Moses acquainted Aaron with the laws he had received from God, together with the explanation of them. After

this Aaron placed himself at the right-hand of Moses, and Eleazar and Ithmar, the sons of Aaron, were admitted, to whom Moses repeated what he had just before told to Aaron. Their being seated, the one on the right, the other on the left-hand of Moses, the seventy elders of Israel, who composed the Sanhedrim, came in. Moses again declared the same laws to them, with the interpretations of them, as he had done before to Aaron and his sons. Lastly, all who pleased of the common people were invited to enter, and Moses instructed them likewise in the same manner as the rest: so that Aaron heard four times what Moses had been taught by God upon Mount Sinai; Eleazar and Ithmar, three times; the seventy elders, twice; and the people, once. Moses afterwards reduced the laws which he had received into writing, but not the explanations of them; these he thought it sufficient to trust to the memories of the above-mentioned persons, who being perfectly instructed in them, delivered them to their children, and these again to theirs from age to age.

The Cabbala, therefore, is properly the oral law of the Jews, delivered down by word of mouth from father to son; and it is to these interpretations of the written law, that our Saviour's censure is to be applied, when he reproves the Jews for making the commands of God of none effect, through their traditions.

Some of the Rabbins pretend, that the origin of the cabbala is to be referred to the angels, that the angel Raziel instructed Adam in it; the angel Japhiel, Shem; the angel Zedekiel, Abraham, &c. But the truth is, these explanations of the law are only the several interpretations and decisions of the Rabbins, on the law of Moses; in the framing of which, they studied principally the combinations of particular words, letters, and numbers, and by that means pretended to discover clearly the true sense of the difficult passages of the scripture.

This is properly the artificial cabbala, to distinguish it from simple tradition; and it is of three sorts: The first, called Gematria, consists in taking letters as figures, and explaining words by the arithmetical value of the letters of which they are composed. For instance, the Hebrew letters of *יב שילה* *Jabo-schiloh*, i. e. *Shiloh shall come*, make up the same

arithmetical number, as משיח *Messiah*, the Messiah, from whence they conclude that Shiloh signifies the Messiah.

The second kind of artificial cabbala, which is called Notaricon, consists in taking each particular letter of a word for an entire diction, for example of בראשית, *Bereſchith*, which is the first word of Genesis, composed of the letters B. R. A. SCH. J. TH. they make *Bara-Rakiab-Arez-Schamaim-Jam-Te-hemoth*, i. e. *He created the firmament, the earth, the heavens, the sea, and the deep*; or in forming one intire diction out of the initial letters of many; thus, in *Atab-Gibbor-Leholam-Adonai*, i. e. *Thou art strong for ever, O Lord*, they put the initial letters of each word that compose this sentence together, and form the word אגלא *Agla*, which signifies either *I will reveal*, or *a drop of dew*, which is the cabbalistic name of God.

The third kind of cabbala, called *Themura*, consists in changing and transposing the letters of a word: thus, of the word *Bereſchith* with which Genesis begins, they make *A-betisfri*, which signifies *the first of the month Tisri*; and infer from thence, that the world was created on the first day of the month Tisri, which answers nearly to our September.

The cabbala, according to the Jews, is a noble and sublime science, conducting men, by easy methods, to the profoundest truths. Without it, they think the holy scriptures could not be distinguished from profane books; wherein we find some miraculous events, and as pure morality as that of the law, if we did not penetrate into the truths locked up under the external cover of the literal sense. Some visionaries among the Jews believe that Jesus Christ wrought his miracles by virtue of the mysteries of the cabbala. Some learned men are of opinion that Pythagoras and Plato learned the cabbalistic art of the Jews in Egypt. Others, on the contrary, say that the philosophy of Pythagoras and Plato furnished the Jews with the cabbala. Most of the heretics in the primitive christian church fell into the vain conceits of the cabbala, particularly the Gnostics, Valentinians, and Basilidians; and Henry More assures us, that all his learning and philosophy ended in mere scepticism, till he applied his mind to the divine and hidden science of the cabbala, which in a short time brought him forth into the most glorious light, and filled his soul with notices utterly ineffable.

On the other hand, Dr. Burnet examines into the merits of the several parts of the cabbala, and finds it to be without any rational foundation, and not conducing to any real knowledge. But he conjectures, that the most antient cabbala, before it was confounded and defiled with fables, might contain something of the original of things, and their gradations; particularly, that before the creation, all things had their being in God; that from him they flowed as emanations; that they will all flow back again into him, when they are destroyed; and that there will succeed other emanations and regenerations, and other destructions and absorptions to all eternity, as they had been from all eternity; that nothing is produced out of nothing; and that the things produced, never return to nothing, but always have their subsistence in God.

CABBALISTS, the jewish doctors, who profess the study of the cabbala.

In the opinion of these men, there is not a word, letter, or accent in the law, without some mystery in it. The Jews are divided into two general sects; the karaites, who refuse to receive either tradition or the talmud, or any thing but the pure text of scripture; and the rabbinitis, or talmudists, who, besides this, receive the traditions of the antients, and follow the talmud.

The latter are again divided into two other sects; pure rabbinitis, who explain the scripture, in its natural sense, by grammar, history, and tradition; and cabbalists, who, to discover hidden mystical senses, which they suppose God to have conched therein, make use of the cabbala, and the mystical methods above mentioned.

CABBIN, or **CABIN**. See **CABIN**.

CABECA, or **CABESSE**, a name given to the finest silks in the East Indies, as those from 15 to 20 per cent. inferior to them, are called *barina*. The indian workmen endeavour to pass them off one with the other: for which reason, the more experienced european merchants take care to open the bales, and to examine all the skains one after another. The Dutch distinguish two sorts of *cabeças*; namely, the moor *cabeça* and the common *cabeça*. The former is sold at Amsterdam for about 21 $\frac{1}{2}$ schellinghen Flemish, and the other for about 18 $\frac{1}{2}$.

CABENDA, a port-town of Congo, in Africa, subject to the Portuguese; east longitude 12°, and south latitude 4°.

CABI-

CABIDOS, or **CAVIDOS**, a long measure used at Goa, and in other places of the East Indies belonging to the Portuguese, to measure stuffs, linens, &c. and equal to $\frac{1}{4}$ of the Paris ell.

CABIN, or **CABBIN**, in the sea-language, a small room, or apartment, whereof there are a great many in several parts of a ship; particularly on the quarter-deck, and on each side of the steerage, for the officers of the ship to lie in.

The great cabin is the chief of all, and that which properly belongs to the captain, or chief commander.

CABINET, or **CARBINET**, the most retired place in the finest part of a building, set apart for writing, studying, or preserving any thing that is precious.

A complete apartment consists of a hall, anti-chamber, chamber, and cabinet, with a gallery on one side. Hence we say, a cabinet of paintings, curiosities, &c.

CABINET also denotes a piece of joiner's workmanship, being a kind of press or chest, with several doors and drawers.

There are common cabinets of oak or of chefnut; varnished cabinets of China and Japan, cabinets of inlaid work, and some of ebony, or the like scarce and precious woods.

Formerly the dutch and german cabinets were much esteemed in France, but are now quite out of date, as well as the cabinets of ebony, which came from Venice.

CABIRI, a term in the theology of the antient Greeks, signifying great and powerful gods; being a name given to the gods of Samothracia. They were also worshiped in other parts of Greece, as Lemnos and Thebes, where the Cabiria were celebrated in honour of them: these gods are said to be, in number, four, *viz.* Axieros, Axiocersa, Axioerfus, and Casmilus. See the next article.

CABIRIA, festivals in honour of the Cabiri, celebrated in Thebes and Lemnos, but especially in Samothracia, an island consecrated to the Cabiri. All who were initiated into the mysteries of these gods, were thought to be secured thereby from storms at sea, and all other dangers. The ceremony of initiation was performed, by placing the candidate, crowned with olive branches, and girded about the loins with a purple ribband, on a kind of throne, about which the priests, and persons before initiated, danced.

CABLE, a thick, large, strong rope, com-

monly of hemp, which serves to keep a ship at anchor.

There is no merchant ship, however weak, but has, at least, three cables; namely, the chief cable, or cable of the sheet-anchor, a common cable, and a smaller one.

Cable is also said of ropes, which serve to raise heavy loads, by the help of cranes, pullies, and other engines. The name of cable is usually given to such as have, at least, three inches in diameter; those, that are less, are only called ropes of different names, according to their use.

Every cable, of what thickness soever it be, is composed of three strands; every strand of three ropes; and every rope of three twists: the twist is made of more or less threads, according as the cable is to be thicker or thinner.

In the manufacture of cables, after the ropes are made, they use sticks, which they pass first between the ropes of which they make the strands, and afterwards between the strands of which they make the cable, to the end that they may all twist the better, and be more regularly wound together; and also, to prevent them from twining or intangling, they hang, at the end of each strand and of each rope, a weight of lead or of stone.

The number of threads, each cable is composed of, is always proportioned to its length and thickness; and it is, by this number of threads, that its weight and value are ascertained: thus, a cable of three inches circumference, or one inch diameter, ought to consist of 48 ordinary threads, and weigh 192 pounds; and on this foundation, is calculated the following table, very useful for all people engaged in marine commerce, who fit out merchant-men for their own account, or freight them for the account of others.

A table of the number of threads and weight of cables of different circumferences.

| Circumf. | Threads. | Weight. |
|-----------|----------|-------------|
| 3-inches. | 48 | 192 pounds. |
| 4 | 77 | 308 |
| 5 | 121 | 484 |
| 6 | 174 | 696 |
| 7 | 238 | 952 |
| 8 | 311 | 1244 |
| 9 | 393 | 1572 |
| 10 | 485 | 1940 |
| 11 | 598 | 2392 |
| 12 | 699 | 2796 |

| Circumf. | Threads. | Weight. |
|------------|----------|--------------|
| 13 inches. | 821 | 3284 pounds. |
| 14 | 952 | 3808 |
| 15 | 1093 | 4372 |
| 16 | 1244 | 4976 |
| 17 | 1404 | 5616 |
| 18 | 1574 | 6296 |
| 19 | 1754 | 7016 |
| 20 | 1943 | 7772 |

Sheet anchor CABLE is the greatest cable belonging to a ship.

Serve or plate the CABLE, is to bind it about with ropes, clouts, &c. to keep it from galling in the hawse.

To splice a CABLE, is to make two pieces fast together, by working the several threads of the rope, the one into the other.

Pay more CABLE, is to let more out of the ship. *Pay cheap the cable*, is to hand it out apace. *Veer more cable*, is to let more out, &c.

CABLED, in heraldry, a term applied to a cross, formed of the two ends of a ship's cable; sometimes also to a cross covered over with rounds of rope, more properly called a cross-corded, as in plate XXXV. fig. 1.

CABLED-FLUTE, in architecture, such flutes as are filled up with pieces, in the form of a cable. See **FLUTES**.

CABO DE ISTRIA, the capital of the province of Istria, in the dominion of Venice, situated on the gulph of Venice, about twelve miles south of Trieste: east longitude $14^{\circ} 20'$, and north latitude $45^{\circ} 50'$.

CABOCHED, in heraldry, is when the heads of beasts are born without any part of the neck, full faced.

CABOLETTO, in commerce, a coin of the republic of Genoa, worth about three pence of our money.

CABUIA, a sort of hemp, which grows in the province of Panama, in south America. The plant, which produces it, has leaves like those of a thistle, though broader, thicker, and greener. When it is ripe, they steep it in water, as they do hemp in Europe, and, after it is dried, beat it with wooden hammers, till there remain nothing but the threads. Of these, the Indians make ropes of different sizes, and strings, which are so extremely hard and strong, that they use them for sawing iron, by mounting them on a bow, and putting a little sand upon the iron, as the work advances.

CABUL, the capital of a province of the

same name, on the north-west of India. Both the town and province of Cabul were ceded to the Persians in 1739: east long. 69° , and north lat. $33^{\circ} 30'$.

CABURNS, on ship-board, are small lines, made of spun-yarn, to bind cables, seize tackles, or the like.

CACAGOGA, among antient physicians, ointments, which, applied to the fundament, procure stools. Paulus Aegineta directs to boil alum, mixed with honey, for that purpose.

CACAO, the CHOCOLATE-TREE, in botany, a genus of trees, called by Linnaeus theobroma. See **THEOBROMA**. The fruit of this tree, called cacao-nuts, in order to be good, must have a very brown and pretty even skin or peel, and when it is taken off, the kernel must appear full, plump, and shining, of a hazle-nut colour, very dark on the outside, a little more reddish within, of a bitterish and astringent taste, without any greenish or musty flavour. It is one of the most oily fruits, which nature produces, and has this wonderful advantage that it never grows rank, how old soever it be, as all other fruits do, which have any analogy with this: such as almonds, kernels of pine-apples, pistachio-nuts, olives, &c. It is brought from Caracca, Marignan, and several of the islands in the West-Indies: but the first kind is the best. The Mexicans esteem cacao-nuts as anodyne, and eat them raw, to assuage pains of the bowels. In some parts of America, the seeds are used by the Indians as money; twelve or fourteen are valued at a spanish real, or six-pence three farthings sterling. Of this fruit is made an excellent conserve, which far excels all the sweet-meats made in Europe, and also chocolate; for the preparation of which see the article **CHOCOLATE**.

CACERES, a town of Estremadura, in Spain, about seventeen miles south-east of Alcantara; west longitude $6^{\circ} 45'$, and north latitude $39^{\circ} 12'$.

CACHAN, a city of Persia, situated in a large plain, about twenty leagues from Ispahan.

It is remarkable for its manufactures of gold and silver stuffs, and of fine earthen ware.

CACHAO, or **KECHIO**, the capital of the kingdom of Tonquin, situated on the western shore of the river Domea; east long. 105° , and north lat. $22^{\circ} 30'$.

CACHECTIC, something partaking of the

the nature of, or belonging to, a cachexy. See the article CACHEXY.

CACHEMIRE, or **KACHEMIRE**, a province of Asia, in the country of the Mogul. The inhabitants are thought to have been originally Jews, because they speak much of Moses and Solomon, whom they believe to have travelled into their country.

This also is the name of the capital of that province, situated in 76° east long. and $34^{\circ} 30'$ north latitude.

CACHEXY, in medicine, such a disposition of the body as depraves the nourishment throughout its whole habit.

The causes of a cachexy are any bad state of the nutritious juices, or a fault in the vessels designed for their reception, or a defect of the assimilating faculty. From the first of these causes arise many disorders, according to the various colour, quantity, tenacity, acrimony, fluidity of the disordered humour, as a discolouring of the skin, a swelling under the eyes; the fleshy parts become bloated; and lastly, the body is either reduced to a skeleton, or afflicted with a leucophlegmatia and a dropsy. The vessels may be too contractile or too lax, and consequently the disorders that proceed from thence, may be looked upon as the causes of this disease, and the fault may lie in the assimilating faculty, if the force, by which the fluids are circulated, is too languid or too violent. From what has been said, the diagnostic signs are evident, and the prognostics may be gathered from the consideration of the cause, duration, the effects and degree of the disease, &c.

The cure sometimes requires a correction and a moderate inspissation of the too acid fluid. When it is tenacious and stagnating, it must be dissolved. But the medicines must be varied, according to the various causes, from whence these two faults arise. The greatest care must be taken, that the aliment be most like the healthy fluids, and easy of digestion. The organs of digestion should be disposed to perform their office by mild digestives, then by vomits and purges, and by medicines which promote digestion.

When, by the use of these, the morbid matter is attenuated, you must proceed to saponaceous remedies, diuretics, and sudorifics, and last of all to chalybeates, with exercise, frictions, and baths.

When a cachectic tabes arises, from too

great an acrimony, the nature of that acrimony must be inquired into, and corrected by its contraries.

CACHRYS, in botany, a genus of plants belonging to the pentandria-digynia class; the general flower of which is uniform; the proper flowers consist of five lanceolated, equal, and somewhat erect petals; the fruit is roundish, angulated, obtuse, very large, and separable into two parts, with two seeds very large, very convex on one side, and plane on the other; fungous, and containing a single ovato-oblong nucleus. See plate XXXV. fig. 2.

CACOCHYMIA, *κακοχυμία*, a vicious state of the vital humours, especially of the mass of blood, arising either from a disorder in the secretions, or excretions, or from external contagion. This word is, by some writers, applied to the abundance or excess of any ill humour, whether it be bile, pituita, or any other, providing there be one that thus offends in quantity.

CACOETHES, in medicine, an epithet applied, by Hippocrates, to malignant and difficult distempers: when applied to signs or symptoms, it imports what is very bad and threatening; and if given to tumours, ulcers, &c. it denotes a great malignancy.

ACTUS, **TORCH-THISTLE**, in botany, a genus of the icofandria-monogynia class of plants, comprehending the torch-thistle, melon-thistle, pereskia, and cochineal-plant; the flower of which consists of a great many broad obtuse petals, the exterior ones short, and the interior ones long and connivent: the fruit is an oblong umbilicated berry, covered with little leaves, like the cup, with one cell, containing numerous, roundish, and small seeds.

This is a culinary plant, which is blanched like celery, and like that eaten raw with pepper and salt in Italy. In the medicinal virtues, it agrees with the cynara, or artichoke.

CADARI, or **KADARI**, a sect of Mahometans, which attributes the actions of men to men alone, and not to the divine decree determining his will; and denies all absolute decrees, and predestination. Ben Aun calls the cadari, the magi or manichees of the mussulmen.

CADE, a cag, cask, or barrel. A cade of herrings is a vessel, containing the quantity of 500 red herrings, or of sprats 1000.

CADÉ-LAMB, a young lamb, weaned and brought up by hand in a house.

CADÉ-OIL, an oil much used in France and Germany; it is prepared from the fruit of a species of cedar, called *oxycedrus*.

CADENCE, in music, according to the antients, is a series of a certain number of notes, in a certain interval, which strike the ear agreeably, and especially at the end of the song, stanza, &c. It consists ordinarily of three notes.

Cadence, in the modern music, may be defined a certain conclusion of a song, or of the parts of a song, which divide it, as it were, into so many numbers or periods. It is when the parts terminate in a chord or note, the ear seeming naturally to expect it; and is much the same in a song, as the period that closes the sense in a paragraph of a discourse.

A cadence is either perfect, consisting of two notes sung after each other, or, by degrees, conjoined in each of the two parts, and, by these means, satisfying the ear; or imperfect, when its last measure is not in the octave or unison, but a sixth or third. It is called imperfect, because the ear does not acquiesce in the conclusion, but expects a continuation of the song. The cadence is said to be broken, when the bass, instead of falling a fifth, as the ear expects, rises a second, either major or minor. Every cadence is in two measures; sometimes it is suspended, in which case it is called a repose, and only consists of one measure, as when the two parts stop at the fifth, without finishing the cadence. With regard to the *bais-viol*, Mr. Rousseau distinguishes two cadences, one with a rest, when the finger, that should shake the cadence, stops a little, before it shakes, on the note immediately above that which requires the cadence; and one without a rest, when the stop is omitted.

All cadences are to be accommodated to the characters of the airs.

CADENCE, in the manege, an equal measure or proportion, observed by a horse in all his motions; so that his times have an equal regard to one another, the one does not embrace or take in more ground than the other, and the horse observes his ground regularly.

CADENCE, in rhetoric and poetry, the running of verse or prose, otherwise called the numbers, and by the antients *gymnos*. See the article **RHYME**.

It would be easy to give instances, in our own, as well as the greek and roman poets, when the cadence is admirably adapted to the subject in hand.

CADENCE, in dancing, is when the several steps and motions follow, or correspond, to the notes and measures of the music.

CADENE, one of the sorts of carpets, which the Europeans import from the Levant. They are the worst sort of all, and are sold by the piece from one to two pialters *per carpet*.

CADET, the younger son of a family, is a term naturalized in our language from the French. At Paris, among the citizens, the cadets have an equal patrimony with the rest. At Caux, in Normandy, the custom, as with us, is to leave all to the eldest, except a small portion to the cadets. In Spain, it is usual for one of the cadets in great families, to take the mother's name.

CADET is also a military term, denoting a young gentleman who chooses to carry arms in a marching regiment, as a private man. His views are to acquire some knowledge in the art of war, and to obtain a commission in the army. Cadet differs from volunteer, as the former takes pay, whereas the latter serves without any pay.

CADI, or **CADHI**, a judge of the civil affairs in the turkish empire.

It is generally taken for the judge of a town; judges of provinces being distinguished by the appellation of *molla's*.

In Biledulgerid in Africa, the *cadi* decides in spiritual affairs.

CADILESCHER, a capital officer of justice, among the Turks, answering to a chief justice among us.

It is said that this authority was originally confined to the soldiery, but that, at present, it extends itself to the determination of all kinds of law-suits; yet nevertheless subject to appeals.

There are but three *cadileschers* in all the grand signior's territories; the first is, that of Europe; the second, of *Natolia*; and the third resides at Grand Cairo. This last is the most considerable: they have their seats in the *divan* next to the grand vizir.

CADIZ, a city and port-town of Andalusia in Spain, situated on the north-west end of the island of Leon, or Lyon, opposite to Port St. Mary on the continent, about sixty miles south-west of Seville, and forty north-west of Gibraltar:

west

west longitude $6^{\circ} 40'$, and north latitude $36^{\circ} 30'$.

The island it stands on is in length about eighteen miles; the south-west end is about nine broad, but the other end where the city stands, not above two. It has a communication with the continent by means of a bridge; and with the opposite shore, forms a bay of twelve miles long, and six broad. About the middle of this bay, there are two headlands, or promontories, one on the continent, and the other on the island, which advance so near together, that the forts upon them, called the Puntal and Matagorda, command the passage; and within these forts is the harbour, which it is impossible for an enemy to enter, till he has first taken the forts.

CADIZADELITES, a sect of mahometans very like the antient stoics. They shun feasts and diversions, and affect an extraordinary gravity in all their actions; they are continually talking of God, and some of them make a jumble of christianity and mahometanism; they drink wine, even in the fast of the ramazan; they love and protect the christians; they believe that Mahomet is the Holy Ghost, practise circumcision, and justify it by the example of Jesus Christ.

CADMIA, in the natural history of the antients, the name of two distinct substances, called native cadmia, and factitious cadmia. The native cadmia was only one of the copper ores; but this is not the cadmia so much cried up by them, for its absorbent and desiccative virtues: this was the factitious cadmia, acrement of copper, produced in the copper-works, of which there were three kinds. The finest of all was found in the very mouths of the furnaces, from whence it issued out with the flame and smoke, and was therefore called capnititis, or smoky cadmia: a great part of this was necessarily lost in the air; but the little that adhered to the mouths of the furnaces, was collected in form of a powder, or fine ashes.

The finest cadmia next to this, was that found on the roofs of the furnaces, hanging down in form of clusters of round bubbles; and therefore called the cadmia botryitis, the botryoide, or clustered cadmia, which was much more firm and heavy than the capnititis, and of a greyish or purple colour, whereof the latter was always esteemed the best.

A third kind of cadmia, was that gathered about the sides of the furnaces,

as being not light or fine enough to ascend to the roof: it was called cadmia placitis, or crust-like cadmia. Of this crustated cadmia they distinguished two kinds, the one of a blackish colour on the outside, variegated with spots on the inside, called onychitis, on account of the resemblance it bore to the onyx in its veins and clouds; and the other, which was quite black throughout, they called ostracitis.

All these kinds of cadmia, now disused, were highly extolled by the antients. They tell us, that in diseases of the eyes, collyriums prepared with them, scarce ever failed of curing; nor is their efficacy in wounds and ulcers less cried up.

Among modern writers, it is not unusual to confound these substances with tuty. See the article TUTTY.

CADORIN, a province of Italy, in the territories of Venice, bounded by the bishopric of Brixen, on the north; by Friuli, on the east; by the Belunese, on the south; and by the Trentin, on the west.

CADRIDTES, a sort of mahometan friars, who once a week spend great part of the night in turning round, holding each other's hands, and repeating incessantly the word *hai*, which signifies living, and is one of the attributes of God; during which, one of them plays on a flute. They never cut their hair, nor cover their heads, and always go barefooted; they have liberty to quit their convent when they please, and to marry.

CADSAND, an island on the coast of dutch Flanders, situated at the mouth of the Scheld, whereby the Dutch command the navigation of that river.

CADUCEUS, in antiquity, Mercury's rod, or sceptre, being a wand entwisted by two serpents, borne by that deity, as the ensign of his quality and office, given him according to the fable, by Apollo, for his seven-stringed harp.

Wonderful properties are ascribed to this rod by the poets, as laying men asleep, raising the dead, &c. It is used also as a symbol of peace. The caduceus, as found on some medals, is a common symbol, signifying good conduct, peace, and prosperity.

CADUS, in antiquity, a wine vessel of a certain capacity, containing eighty amphoræ, or firkins, each of which, according to the best accounts, held nine gallons.

CÆCILIA, in zoology, the name of a genus of serpents, the characters of which are these: the body is naked with wrinkled sides: the upper lip is prominent be-

yond the rest of the mouth, and has two tentacula : and there is no tail.

Of this genus, authors enumerate several species, distinguished by the number of their rugæ, or wrinkles.

Some physicians have prescribed them as sudorifics.

CÆCUM, or **COECUM**, in anatomy, the blind gut, or first of the thick intestines. Of the three large intestines, called from their size, *intestina crassa*, the first is the cæcum, situated at the right os ileum ; it resembles a bag ; and has a vermiform or worm-like appendage fixed to it. It begins at the termination of the ileum, and terminates in the bottom of the bag, or *sacculus*, which it forms : its length is no more than three or four fingers breadth. In the appendage opening into the side of the cæcum, there are some glands, which, together with its erect situation, seems to shew that some fluid is secreted there. In hens, this is double ; as also in many other fowls. In fishes, there are frequently a vast number of them, and in some species not less than four hundred. In man, it is at the utmost single, and is often wanting.

CÆMENT, in a general sense, any glutinous substance, capable of uniting and keeping things together in close cohesion. In this sense, under cæment, are comprehended mortar, folder, glue, &c. but, strictly speaking, the term cæment only denotes a glutinous composition used in cæmenting broken glasses, china-ware, or earthen-ware.

One of the finest, and at the same time strongest cæment for this purpose, is the juice of garlic stamped in a stone mortar : this, if the operation is done with care, leaves little or no mark. Another cæment is made by beating the white of an egg very clear, and mixing with it fine powdered quick lime, or isinglass, powdered chalk, and a little lime may be mixed together, and dissolved in fair water. With these, the glasses, &c. are to be cæmented, and then set in the shade to dry ; a caution which should always be observed, whichever of the above cæments are used.

A cæment for cracked chemical-glasses, that will stand the fire, may be thus prepared : take wheat-flower, fine powdered Venice glass, and pulverized chalk, of each an equal quantity ; of fine brick-duft, one half of the said quantity ; and a little scraped lint : mix them all together with the whites of eggs ; then, spreading this mixture upon a linen-

cloth, apply it to the cracks of the glasses, which must be well dried before they are used. Old varnish is another cæment that will answer the same purpose.

CÆMENT, among builders, a strong sort of mortar, used to bind bricks or stones together for some kind of mouldings ; or in cæmenting a block of bricks for the carving of capitals, scrolls, or the like. There are two sorts, 1. Hot cæment, which is the most common, made of resin, bees-wax, brickduft, and chalk, boiled together. The bricks to be cæmented with this kind, must be made hot with the fire, and rubbed to and fro after the cæment is spread, in the same manner as joiners do when they glue two boards together. 2. Cold cæment, made of Cheshire-cheese, milk, quick lime, and whites of eggs. This cæment is less used than the former, and is accounted a secret known but to few brick-layers.

CÆMENT, among engravers, jewellers, &c. a composition of fine brick-duft well sifted, resin and bees-wax, in use among these artificers to keep the metals to be engraven or wrought on firm to the block ; and also to fill up what is to be chiseled.

CÆMENT, in chemistry, a kind of menstruum compounded of salts, sulphurs, and brick reduced to dry powders, and strewed betwixt plates of metal, in order to raise their colour, or separate one metal from another. See **CÆMENTATION**.

Cæments are prepared of such salts and other ingredients, as by their acrimony corrode and separate the silver, copper, or other metals from the body of the gold.

There are various kinds of cæments, but those called the common and royal, are mostly used by refiners. The first is made of brick-duft, nitre, and verdigris ; the second, of sal gemmæ and armoniac, each one part, two parts of common salt, and four of bole ; the whole reduced into a paste, with urine.

In compounding cæments, it must be observed to use a weak sort in refining gold of a little value ; but when the gold has but a small mixture of other metal-line particles in it, then the most efficacious cæments are to be administered, by which means much time and expence will be saved.

Cæments used in raising the colour of gold are called gradatory cæments.

In all these, copper is an ingredient.

CÆMENT POTS, or those used in the cæmen-

mentation of metals, are made of fine potter's clay, and that either pure, or mixed with sand in different proportions. **CÆMENTATION**, in a general sense, the corroding of metals in a dry form, by means of the fumes of acid salts. See the article **CÆMENT**.

It is performed in the following manner. After the copper has been separated as much as possible by copelling, a stratum of cæment of about half an inch in thickness, is spread in the bottom of the cæment-pot; over this are laid thin plates of gold, then another stratum of cæment, and so on alternately till the pot be filled within half an inch of the brim. This being done, the pot is covered up, and encompassed with fire which should be made gradually fiercer and fiercer; and in sixteen or twenty hours after they have been red hot, entirely removed, that every thing may cool by degrees. Then the pots are to be opened, the cæment taken out, and if it is grown too hard, to be softened by a sprinkling of hot water. The plates of gold must be washed in hot water, and the water renewed, till it be free from all saline taste; for the salts, together with the metal they have corroded, will be contained in the plates of gold. The gold must be tried with the touch-stone, or some more certain method, to know if it has the degree of fineness required. And if it is not pure enough, it must be cæmented a second time, and if necessary, with a stronger cæment.

For the method of making steel by cæmentation, see the article **STEEL**.

CAEN, the capital of a county of the same name, in Normandy, situated on the river Orne, about seventy-five miles west of Rouen, and thirty south-west of Havre-de-Grace; west longitude 25', north latitude 49° 20'.

It has an university, first founded by king Henry VI. of England, in 1431.

CAERFILLY, a town of Glamorganshire, about five miles north of Landaff; west long. 3° 15', and north latitude 51° 35'.

CÆRITES, or **CÆRITUM TABULÆ**, in roman antiquity, tables or registers in which the names of the Cærites were registered. The people of Cære were accounted citizens of Rome, but had no privilege of voting: hence when a roman citizen was degraded, if a senator, he was expelled the senate; if a knight, he lost the public horse; and if a plebeian, his name was inserted in the register of the Cærites; that is, he was sub-

ject to all taxes, but incapable of voting or enjoying any public office.

CAERLEON, a market-town of Monmouthshire, situated on the river Uske, about sixteen miles south-west of Monmouth: west longitude 3°, north latitude 51° 40'.

CAERMARTHEN, the capital of Caermarthenshire in Wales, situated upon the river Towy, about fifteen miles from the sea.

CAERNARVAN, the chief town of Caernarvanshire, in Wales, situated upon the river Menay.

CAERWIS, a market-town in Flintshire, in north Wales, about five miles east of St. Asaph, and four west of Flint: west long. 3° 25', north latit. 53° 20'.

CÆSALPINA, in botany, a genus of the pentandria-monogynia class of plants, having no cup: the corolla is of the ringent kind, formed of one petal; the fruit is an oblong, acuminate legumen, containing one cell; the seeds are numerous and oval.

CÆSAR, in roman antiquity, a title borne by all the emperors, from Julius Cæsar, to the destruction of the empire. It was also used as a title of distinction, for the intended or presumptive heir of the empire, as king of the Romans is now used for that of the german empire.

This title took its rise from the surname, of the first emperor, C. Julius Cæsar, which, by a decree of the senate, all the succeeding emperors were to bear. Under his successor, the appellation of Augustus being appropriated to the emperors, in compliment to that prince, the title Cæsar was given to the second person in the empire, tho' still it continued to be given to the first; and hence the difference betwixt Cæsar used simply, and Cæsar with the addition of Imperator Augustus.

The dignity of Cæsar remained the second of the empire, till Alexius Comnenus having elected Nicephorus Melissenus Cæsar, by contract; and it being necessary to confer some higher dignity on his own brother Isaacius, he created him Sebastocrator, with the precedency over Melissenus; ordering, that in all acclamations, &c. Isaacius Sebastocrator should be named the second, and Melissenus Cæsar, the third.

CÆSARIAN SECTION, in midwifery, a surgical operation, by which the fœtus is delivered from the womb of its mother, when it cannot be done in the natural way.

There are chiefly three different cases, in which this operation is practicable: the first is, when the mother is dead, either in the birth, or by some accident, while the foetus is reasonably supposed to be yet surviving in the womb: the second is, when the mother is living, and the foetus dead, but incapable of being extracted or expelled by the natural passages: the third and last is, when the mother and foetus are both living, but the latter is incapable of being brought into the world through the natural passages. In the first case, this operation should be performed, not only as soon as possible, but even before the circulation in the mother is stopped, because the foetus cannot long survive: then the abdomen must be laid open, by a crucial incision, as in common dissections, or by making a longitudinal incision on one side; and if the foetus should have fallen into the cavity of the abdomen, from a rupture of the uterus, &c. it should be taken out immediately: but if it remains concealed in the womb, that body should be cautiously opened, and the foetus extracted. In the second case, the surgeon must make a longitudinal incision on the outside of the rectus muscle, between the navel and the angle of the os ilium, and thereby extract the foetus. If the foetus is contained in the fallopian tube, or in the ovary, those parts are to be opened, and the foetus, with its placenta, then removed: but if the foetus is concealed in the uterus, this is also to be opened, by a longitudinal incision, sufficient to give a passage to the foetus, and its appendages. In the third and last case, when the birth is prevented by a callosity of the vagina, or something amiss in the mouth of the uterus, a division and dilaration of these parts, is preferable to the cæsarian section, as less dangerous; and the same may be said when the vagina is obstructed by the hymen, or some other preternatural membrane: but when the callosity of the vagina is so large and hard, as to render the birth that way impracticable, if it was to be divided, there is no other means left but the cæsarian section. If a rupture of the uterus should be made in the agonies of labour, so as to let out the foetus into the cavity of the abdomen, in this case it will be necessary to make an incision in that part made most prominent by the foetus, which should be extracted, as before.

CÆSARIANS, *cæsarienses*, in roman antiquity, were officers or ministers of the roman emperors: they kept the account of the revenues of the emperors, and took possession, in their name, of such things as devolved, or were confiscated to them.

CÆSTUS, in antiquity, a large gantlet made of raw hide, which the wrestlers made use of when they fought at the public games.

This was a kind of leathern strap, strengthened with lead, or plates of iron, which encompassed the hand, the wrist, and a part of the arm, as well to defend these parts, as to enforce their blows.

CÆSTUS, or **CÆSTUM**, was also a kind of girdle, made of wool, which the husband untied for his spouse the first day of marriage, before they went to bed.

This relates to Venus's girdle, which Juno borrowed of her, to entice Jupiter to love her. See the article **CÆSTUS**.

CÆSURA, in the antient poetry, is when, in the scanning of a verse, a word is divided so, as one part seems cut off, and goes to a different foot from the rest; as,

Menti|ri no|li, nun|quam men|dacia|
profunt.

where the syllables *ri*, *li*, *quam*, and *men*, are cæsuras.

Cæsura more properly denotes a certain and agreeable division of the words between the feet of a verse, whereby the last syllable of a word becomes the first of a foot; as in

Arma virumque cano, trojæ qui pri-
mus ab oris.

where the syllables *no* and *jæ* are cæsuras.

CÆSURA, or **CÆSURE**, in the modern poetry, denotes a rest, or pause, towards the middle of an alexandrine verse, by which the voice and pronunciation are aided, and the verse, as it were, divided into two hemistichs.

In alexandrine verses of twelve or thirteen syllables, the cæsura must always be on the sixth; in verses of ten, on the fourth; and in those of twelve on the sixth: verses of eight syllables, must not have any cæsura.

CÆTERIS PARIBUS, a latin term, often used by mathematical and physical writers, the words literally signifying *the rest, or the other things, being alike, or equal*. Thus we say, the heavier the bullet, *cæteris paribus*, the greater the range, *i. e.* by how much the bullet is heavier; if the length and diameter of the piece, and the quantity and strength of the powder

powder be the same, by so much will the utmost range or distance of a piece of ordnance be greater.

Thus also, in a physical way, we say, the velocity and quantity of the blood circulating, in a given time, through any section of an artery, will, *ceteris paribus*, be according to its diameter, and nearness to, or distance from the heart.

CAFFA, or **KAFFA**, a city and port town of Crim Tartary, situated on the south-east part of that peninsula; east longitude 37° , north latitude $44^{\circ} 55'$.

It is the most considerable town in the country, and gives name to the straits of Caffa, which run from the Euxine, or Black sea, to the Palus Meotis, or sea of Azoph.

CAFFILA, a company of merchants or travellers, who join together in order to go with more security through the dominions of the grand mogul, and through other countries on the continent of the East-Indies.

The caffila differs from a caravan, at least in Persia; for the caffila belongs properly to some sovereign, or to some powerful company of Europe; whereas a caravan is a company of particular merchants, each trading upon his own account. The English and Dutch have each of them their caffila at Gambron.

CAFFILA on the coast of Guzerat or Cambaya, signifies a small fleet of merchant-ships.

CAFFRARIA, the country of the Caffers, or Hottentots, in the most southerly part of Africa, lying in the form of a crescent about the inland country of Monomotapa, between 35° south latitude and the tropic of Capricorn; and bounded on the east, south, and west, by the Indian and Atlantic oceans.

Most of the sea-coasts of this country is subject to the Dutch, who have built a fort near the most southern-promontory, called the Cape of Good Hope.

CAG, or **KEG**, of sturgeon, &c. a barrel, or vessel, that contains from four to five gallons.

CAGE, *cavea*, an inclosure made of wire, wicker, or the like, interwoven lattice-wise, for the confinement of birds, or wild beasts.

The cage, in the roman amphitheatres, was a place wherein savage animals were confined. It was inclosed with iron rails, and open a-top, so as to be seen to the bottom by the spectators.

CAGLI, a town of the province of Urbino,

in the pope's territories, about twenty-five miles south of the city of Urbino: east long. 14° , north latit. $43^{\circ} 15'$.

CAGLIARI, the capital of the island of Sardinia, situated on a bay of the sea in the southern part of that island; east longitude $9^{\circ} 12'$, north lat. 39° .

CAHORS, the capital of the territory of Querci, in the province of Guienne, in France, situated about forty-five miles north of Tholouse; east longitude 1° , north latitude $44^{\circ} 25'$.

It is the see of a bishop, and has an university.

CAJANABURG, the capital of the province of Cajania, or east Bothnia, in Sweden, situated on the north-east part of the lake Cajania, about three hundred miles north-east of Abo; east longit. 27° , north latitude $63^{\circ} 50'$.

CAJAZZO, a town of the province of Lavoro, in the kingdom of Naples, situated about sixteen miles north-east of the city of Naples; east longitude 15° , north latitude $41^{\circ} 15'$.

CAIFUM, a city of China, situated in the province of Honan, on the river Crocceus, 350 miles north-west of Nanking; east longitude $113^{\circ} 30'$, north latitude 35° .

CAIMACAN, or **CAIMACAM**, in the turkish affairs, a dignity in the Ottoman empire, answering to lieutenant, or rather deputy, among us.

There are usually two caimacans; one residing at Constantinople, as governor thereof; the other attending the grand vizir, in quality of his lieutenant, secretary of state, and first minister of his council; and gives audience to ambassadors. Sometimes there is a third caimacan, who attends the sultan; whom he acquaints with any public disturbances, and receives his orders concerning them.

CAIMAN, or **CAIMAN-ISLANDS**, certain american islands lying south of Cuba, and north-west of Jamaica, between 81° and 86° of west longitude, and in 21° of north latitude.

They are most remarkable on account of the fishery of tortoise, which the people of Jamaica catch here, and carry home alive, keeping them in pens for food, and killing them as they want them.

CAINIANS, or **CAINITES**, in church-history, christian heretics, that sprung up about the year 130, and took their name from Cain, whom they looked upon as their head and father: they said that he was formed by a celestial and almighty power,

power, and that Abel was made but by a weak one.

This sect adopted all that was impure in the heresy of the gnostics, and other heretics of those times: they acknowledged a power superior to that of the creator; the former they called wisdom, the latter, inferior virtue: they had a particular veneration for Korah, Abiram, Esau, Lot, the sodomites, and especially Judas, because his treachery occasioned the death of Jesus Christ: they even made use of a gospel, which bore that false apostle's name.

CAIRO, or **GRAND CAIRO**, the capital of Egypt, situated in a plain at the foot of a mountain, about two miles east of the Nile, and 100 miles south of the mouth of that river: east longitude 32° , north latitude 30° .

The town is ten miles in circumference, and full of inhabitants. The castle stands on the summit of a hill, at the south end of the town, and is three miles round. The british and other european states have their consuls and factors here, for the protection of trade.

CAIROAN, a town of the kingdom of Tunis, in Africa, situated on the river Magrida, about eighty miles south of Tunis; east long. 9° , north lat. 36° .

CAISSON, in the military art, a wooden chest, into which several bombs are put, and sometimes only filled with gunpowder: this is buried under some work, whereof the enemy intends to possess themselves, and when they are masters of it, is fired, in order to blow them up.

CAISSON is also used for a wooden frame, or chest, used in laying the foundations of the piers of a bridge.

CAITHNESS. See the article **CATHNESS**.

CAKE, a finer sort of bread, denominated from its flat round figure. See the article **BREAD**.

We meet with divers compositions under the name of cakes; as feed-cakes, made of flour, butter, cream, sugar, coriander and caraway seeds, mace, and other spices and perfumes, baked in the oven; plumb-cake, made much after the same manner, only with fewer seeds, and the addition of currants; pan-cakes, made of a mixture of flour, eggs, &c. fried; cheese-cakes, made of cream, eggs, and flour, with, or without cheese-curd, butter, almonds, &c. oat-cakes, made of fine oatens-flour, mixed with yeast, rolled thin, and laid on an iron or stone to bake over a slow fire; sugar-cakes,

made of fine sugar beaten and searced with the finest flour, adding butter, rose-water, and spices: rose-cakes, placenta roseacea, are leaves of roses dried and pressed into a mass, sold in the shops for epithems.

CALABASH, in commerce, a light kind of vessel made of the shell of a gourd, emptied and dried, serving for a case to put divers kinds of goods in; as pitch, rosin, and the like. The Indians, also, both of the north and south sea, put the pearls they have fished in calabashes; and the negroes, on the coast of Africa, do the same by their gold dust. The smaller calabashes are also frequently used by these people as a measure, by which they sell these precious commodities to the Europeans. The same vessels likewise serve for putting in liquors, and do the office of the cups as well as of bottles for soldiers, pilgrims, &c.

CALABRIA, the most southerly part of the kingdom of Naples, situated over-against Sicily.

There are two provinces of Calabria, called the hither and farther Calabria, with respect to the city of Naples; Cosenza being the capital of the former, and Rheggio of the latter.

CALADE, in the manege, the descent or sloping declivity of a rising manege ground, being a small eminence upon which we ride down a horse several times, putting him to a short gallop, with his forehams in the air, to make him learn to ply or bend his haunches, and form his stop upon the aids of the calves of the legs, the stay of the bridle, and the cavesson, seasonably given.

CALAHORRA, a city of old Castile, in Spain, situated on the river Ebro, near the confines of Navarre, about sixty miles north-west of Saragossa; west longitude 2° , north lat. $42^{\circ} 20'$.

CALAIS, a port-town of Picardy, in France, situated on the english channel, about twenty-two miles south-east of Dover; east long. 2° , north lat. 51° .

CALAMANCO, a sort of woollen stuff manufactured in England and in Brabant. It has a fine gloss, and is chequered in the warp, whence the checks appear only on the right side. Some calamancoes are quite plain, others have broad stripes adorned with flowers; some with plain broad stripes, some with narrow stripes, and others watered.

CALAMINARIS, or **LAPIS CALAMINARIS**, in natural history, a kind of fossil, the general ore of zinc is spun-

gy substance, and a lax and cavernous texture, yet considerably heavy.

It is of no determinate shape or size, but is found in masses of a very various and irregular figure. It is, when most pure and perfect, of a pale brownish grey. It is found in Germany, Saxony, Bohemia, and England.

The great use of the lapis calaminaris is the mixing with copper, for the making of brass: this change it makes in copper, is wholly in virtue of the zinc it contains; which zinc, when separated, will do the same. See BRASS and ZINC. Lapis calaminaris is much used in medicine externally, not only in collyriums for the eyes, but as a desiccative for weeping ulcers, and for preventing excoriations in children. It has indeed been made more famous than it deserves in one particular instance, that of its virtue against burns: it is on this account made the principal ingredient in a cerate, called, from its pretended inventor, Turner's cerate.

Calamine should be chosen for medicinal uses, the heaviest, softest, and most friable that can be got, and such as is the least defaced by other substances.

CALAMINE, CALAMINARIS. See the last article.

CALAMINT, in botany, a species of melissa. See the article MELISSA.

Calamint is esteemed a good aperient and diaphoretic.

CALAMUS, in botany, a genus of the hexandria-monogynia class of plants, the calyx of which is a permanent perianthium, consisting of six leaves; there is no corolla: the fruit is membranaceous and globose, containing one cell, in which is a globose fleshy seed.

CALAMUS AROMATICUS, in the materia medica, the stalk of a species of acorus, met with in pieces of ten or twelve inches long, and from the thickness of a goose quill, down to that of a wheaten straw. It is full of knots, or joints, in the manner of our common reeds, and is hollow, of a pale colour, very light, and easily broken: its cavity is filled up with a soft and spongy medullary substance, of a white colour, very light, and resembling a congeries of cobwebs.

The whole is of an agreeable aromatic smell, when fresh broken, and is evidently the drug which the ancients meant by the name of calamus aromaticus. The Indians use it in their sauces, and esteem it cordial and stomachic: it is said to be a diuretic and a promoter of the menses: the fume of it, burnt with tur-

entine, is recommended for diseases of the breast: the indian women, according to some, use it as an uterine and cephalic: with us, it is only known as an ingredient in the theriaca; and is seldom to be met with in shops, the common acorus being generally used in its place; whence that root is called by the name of calamus aromaticus, but very improperly, for which reason, the true plant is distinguished by the name of calamus aromaticus verus. See the article ACORUS.

CALAMUS-SCRIPTORIUS, in antiquity, a reed, or rush, to write with.

The ancients made use of styles to write on tables covered with wax; and of reed, or rush, to write on parchment, or egyptian paper.

CALAMUS-SCRIPTORIUS, in anatomy, a dilatation of the fourth ventricle of the brain, so called from its figure, which resembles that of a goose-quill. See the article BRAIN.

CALASH, or **CALESH**, a light and very low kind of chariot, used chiefly for taking the air in parks and gardens.

CALASIRIS, in antiquity, a linen tunic fringed at the bottom, and worn by the Egyptians under a white woollen garment; but this last they were obliged to pull off when they entered the temples, being only allowed to appear then in linen habits.

CALATAJUD, a city of Arragon, in Spain, situated on the river Xalo, about fifty miles west of Saragossa; west longitude $2^{\circ} 5'$, north latitude $41^{\circ} 15'$.

CALATHUS, in antiquity, a basket, hamper, or pannier of osiers, reeds, or twigs, for women to put their work in, or to gather flowers in.

Calathus was also a vessel, or pan, for cheese-curd and milk; also the name of a cup for wine, used in sacrifices.

CALATOR, in antiquity, was a public servant, and a freeman, such as a bailiff or crier, a sumner to summon courts, synods, and other public assemblies.

CALATRAVA, a city of new Castile, in Spain, situated on the river Guadana, forty-five miles south of Toledo; west long. $4^{\circ} 20'$, north latit. 39° .

Knights of CALATRAVA, a military order in Spain, instituted under Sancho III. king of Castile; upon the following occasion. When that prince took the strong fort of Calatrava from the moors of Andalusia, he gave it to the templars, who, wanting courage to defend it, returned it him again. Then Don Reymond, of the order of the Cistercians, accompanied with

with several persons of quality, made an offer to defend the place, which the king thereupon delivered up to them, and instituted that order. It increased so much under the reign of Alphonfus, that the knights desired they might have a grand master, which was granted. Ferdinand and Isabella afterwards, with the consent of pope Innocent VIII. reunited the grand mastership of Calatrava to the spanish crown; so that the kings of Spain are now become perpetual administrators thereof.

The knights of Calatrava bear a-cross gules, fleurdelised with green, &c. their rule and habit was originally that of the Cistercians.

CALCADA, or **St. DOMINGO DE CALCADA**, a city of old Castile, in Spain, forty-eight miles east of Burgos; west longitude 3° , north latitude $42^{\circ} 36'$.

CALCANEUM, or **OS CALCIS**, in anatomy, the bone lying under the astragalus, to which, and the *os cuboides*, it is articulated. Its apophysis behind, serves to prevent our falling backward, and on its posterior surface is inserted the *tendo achillis*; in its interior side there is an excavation, intended to give safe passage to the vessels running to the metatarsus and toes.

CALCANTHUM, or **CHALCANTHUM**. See the article **CHALCANTHA**.

CALCAR, in anatomy, the same with *calcaneum*. See the article **CALCANEUM**.

CALCAR, in glass making, a sort of oven, or reverberatory furnace, in which being well-heated, the crystal frit, or bollito, is made.

This furnace is made in the fashion of an oven, ten feet long, seven broad in the widest part, and two feet deep. On one side of it is a trench six inches square, the upper part of which is level with the calcar, and separated only from it at the mouth, by bricks nine inches wide. Into this trench they put sea coal, the flame of which is carried into every part of the furnace, and is reverberated from the roof upon the frit, over the surface of which, the smoak flies very black, and goes out at the mouth of the calcar; the coals burn on iron grates, and the ashes fall through. See the article **GLASS**.

CALCAR, in geography, a town of the dutchy of Cleves, and circle of Westphalia, in Germany; east longitude $5^{\circ} 50'$, and north latitude $51^{\circ} 45'$.

CALCARIOUS, in general, denotes some-

thing belonging to, or partaking of the nature of calx. See the article **CALX**.

CALCEDON, or **CHALCEDON**, in geography, a city of Bythinia, in the lesser Asia, once the capital of the country, stood on the asian side of the Bosphorus, or strait of Constantinople, opposite to that city, and near the place where the seraglio or palace of Scutari now stands. It is now dwindled into a village, and is situated in east longitude 29° , north latitude $41^{\circ} 30'$.

CALCEDON, among jewellers, denotes a flaw or foul vein, like chalcedony, found in some precious stones.

CALCEDONY, or **CHALCEDONY**, in the history of precious stones. See the article **CHALCEDONY**.

CALCINATION, in chemistry, such a management of bodies by fire, as renders them reducible to a calx, or white powder; for which reason it is termed chemical pulverization.

With regard to its object, calcination respects not so much the dissipation of the volatile parts, although that be an effect it very often produces, as the comminution, or, at least, the softening of a body. And as solid bodies are reducible to a powder by many different operations, hence we find, in chemical writers, the terms of calcination by a dry way, calcination by moisture, and philosophical calcination. The first method, however, alone, is, properly speaking, called calcination.

Calcination includes also the solution of metalline bodies by corrosive substances. Calcination, according to Dr. Freind, who attempts to solve its phenomena from certain lemmata proved by geometrical writers, and particularly by Sir Isaac Newton, and Dr. Keil, is the effect of liquefaction continued, wherein the more volatile corpuscles fly off, and the particles of the fire enter the body in such plenty, and immediately mix themselves therewith, that it can no longer appear in the form of a fluid; and hence, says he, the weight of the calcined body is increased; and vitrification is no more than a degree of calcination: as common glass is made by a continued fusion, which throws off the lighter and more drossy particles. Hence the gravity of the glass exceeds that of the materials of which it is composed.

CALCIS OS, in anatomy. See the article **CALCINEUM**.

CALCULARY, in a pear, a congeries of stony

stony concretions, sometimes found in the substance of that fruit.

The calculary is a distemperature to which some kinds of pear are very liable.

CALCULATION, the act of computing several sums, by adding, subtracting, multiplying, or dividing. See the articles **ARITHMETIC**, **ADDITION**, &c.

Several people of Africa, America, and Asia calculate by means of cords, upon which they tie knots.

An error in calculation is never protected or secured by any sentence, decree, &c. for in stating accounts it is always understood that errors of calculation are expected.

CALCULATION is more particularly used to signify the computations in astronomy and geometry, for making tables of logarithms, ephemerides, finding the time of eclipses, &c.

CALCULATION of clock and watch work. See **CLOCK** and **WATCH**.

CALCULUS, in natural history, properly denotes a little stone or pebble. See the article **PEBBLES**.

CALCULUS, or **CALCULUS HUMANUS**, in medicine, the stone in the bladder or kidneys. See the article **STONE**.

CALCULUS also denotes a method of computation, so called from the calculi, or counters, antiently used for this purpose. Hence,

CALCULUS SPECIALIS, or **LITERALIS**, is the same with algebra. See **ALGEBRA**.

CALCULUS DIFFERENTIALIS is a method of differencing quantities, that is, of finding an infinitely small quantity, which being taken an infinite number of times, shall be equal to a given quantity. An infinitely small quantity, or infinitesimal is a portion of a quantity less than any assignable one; it is therefore accounted as nothing; and hence two quantities only differing by an infinitesimal, are reputed equal. The word infinitesimal is merely relative, and implies a relation to another quantity: for example, in astronomy, the diameter of the earth is an infinitesimal in respect of the distance of the fixed stars. It must not, then, be confounded with any real ens, or being.

Infinitesimals are likewise called differentials, or differential quantities, when they are considered as the differences of two quantities. Sir Isaac Newton calls them moments, considering them as momentary increments of quantities: for instance, of a line generated by the flux of a point, of a surface by the flux of a

line, or of a solid by the flux of a surface. The calculus differentialis, therefore, and the doctrine of fluxions are the same thing, under different names, the latter given by Sir Isaac Newton, and the former by Mr. Leibnitz, who disputes with Sir Isaac the honour of the discovery. There is, however, one difference between them; which consists in the manner of expressing the differentials of quantities: Mr. Leibnitz, and most foreigners, express them by the same letters as variable ones, prefixing only the letter *d*. Thus the differential of *x* is called *dx*, and the differential of *y*, *dy*. And *dx* is a positive quantity if *x* continually increase, and a negative quantity if *x* decrease. We, on the other hand, following Sir Isaac Newton, instead of *dx*, write \dot{x} (with a dot over it), and instead of *dy*, \dot{y} . But foreigners reckon this method not so commodious as the former, because if differentials were to be differenced again, the dots would occasion great confusion; not to mention, that printers are more apt to overlook a point than a letter.

Now as permanent quantities are always expressed by the first letters of the alphabet, $da=0$, $db=0$, $dc=0$; wherefore $d(x+y-a)=dx+dy$, and $d(x-y+a)=dx-dy$. The difference of quantities, then is easily performed by the addition or subtraction of their compounds. To difference two quantities that multiply each other, as *xy*, multiply the differential of one factor into the other factor, and the sum of the two factors, is the differential required. Thus the differentials of *xy* will be $x dy + y dx$, that is $d(xy) = x dy + y dx$. Again, if there be three quantities mutually multiplying each other, the facium of the two must be multiplied into the differential of the third; thus suppose *vxy*: let $v x = t$, and *vxy* will be $= ty$; consequently $d(vxy) = t dy + y dt$; but $dt = v dx + x dv$. If these values therefore are substituted in the antecedent differential $t dy + y dt$, it follows that $d(vxy) = x dy + y dx + xy dv$. In the same manner must we proceed when the quantities to be differenced are more than three. But if, while one variable quantity increases, the other, *y*, decreases, it is evident that $y dx - x dy$ will be the differential of *xy*.

The rule for differencing quantities that mutually divide each other, is first to multiply the differential of the divisor in-

to the dividend, and on the contrary, the differential of the dividend into the divisor. 2. To subtract the first product from the last. 3. To divide the remainder by the square of the divisor, and the quotient is the differential of the quantities mutually dividing each other. For instance, let $xy:uz$ be to be differenced: suppose $xy=t$, and $uz=w$; then $xy:uz$ will be equal to $t:w$. But $d(t:w) = (wdt - t dw) : w^2$; and $dt = xdy + ydx$, $dw = uz + zdv$. Wherefore $d(t:w) = d(xy:uz) = (wxdy + wzydx - xyudz - xyzdv) : w^2 z^2$. For a farther account of the doctrine of differentials, see the article FLUXIONS.

CALCULUS EXPONENTIALIS, among mathematicians, a method of differencing exponential quantities, and summing up the differentials of exponential quantities. By an exponential quantity is meant a power, the exponent of which is variable, as x^x, x^x . In order to difference an exponential quantity, nothing else is required than to reduce the exponential quantities to logarithmic ones, upon which the differencing is managed as in logarithmic ones. For instance, suppose the differential of the exponential quantity x^y were required,

$$\begin{aligned} \text{Let } x^y &= z \\ \text{then will } ylx &= lz \\ \frac{lx dy + ydx}{z} &= \frac{dz}{z} \\ \frac{lx dy + ydx}{z} &= \frac{dz}{z} \end{aligned}$$

That is $x^y lxdy + yx^{y-1} dx = dz$. If the exponential quantity to be differenced

be of the second degree, as x^y , suppose

$$\text{as before } x^y = z$$

$$\text{then will } x^y lv = lz$$

$$(x^y lxdy + yx^{y-1} dx)lv + x^y dv = dz : z$$

$$z(x^y lxdy + yx^{y-1} dx)lv + zx^y dv = dz$$

$$x^y (x^y lxdy + yx^{y-1} dx)lv + x^y v^{-1} x^y dv = dz$$

or,

$$x^y x^y lxlvdv + v x^y yx^{y-1} lvdv + v x^y v^{-1} x^y dv = dz$$

By the same method may be found the differential of an exponential quantity of any power. This calculus was invented

by Mr. John Bernoulli, and is used in investigating the properties of exponential curves. See EXPONENTIAL CURVE.

CALCULUS INTEGRALIS, or SUMMATORIUS, is a method of summing up differential quantities; that is, from a differential quantity given, to find the quantity from whose differencing the given differential results.

It is the inverse of the calculus differentialis; whence the English, who usually call the differential method fluxions, give this calculus, which ascends from the fluxions to the flowing quantities, or, as Wolfius and other foreigners express it, from the differences to the sums, the name of the inverse method of fluxions. See the articles FLUENT and FLUXION. Let s be the sign of the sum, or integral quantity, so that $sydx$ may denote the integral of the differential ydx . To integrate or sum up a differential quantity, 1. It is demonstrated that $sdx = x$. 2°.

$$\begin{aligned} s(dx \mp dy) &= x \mp y. \quad 3^\circ. \quad s(xdy + ydx) \\ &= xy. \quad 4^\circ. \quad smx^{m-1}dx = x^m. \quad 5^\circ. \quad s \\ (n:m)x^{(n-m):m}dx &= x^{n:m}. \quad 6^\circ. \quad s \\ (ydx - xdy):y^2 &= x:y. \end{aligned}$$

Of these the fourth and fifth cases occur most frequently, in which the differential quantity is integrated, if a variable unity is added to the exponent, and the sum divided by the new exponent, multiplied into the differential of the root, as in the fourth case by $(m-1+1)dx$, that is, by mdx .

If the differential quantity to be integrated, do not come under any of these formulas, it must either be reduced to an integrable finite, or an infinite series each of whose terms may be summed.

This calculus is applied to geometry, in the quadrature and rectification of curves, in cubing solids and measuring their surfaces, in the inverse method of tangents, and in the doctrine of logarithms. It may be remarked, that as in the analysis of finites, any quantity may be raised to any given power; but, *vice versa*, the root cannot be extracted out of any number required: so in the analysis of infinites, any variable or flowing quantity may be differenced; but, *vice versa*, any differential cannot be integrated. And as in the analysis of finites, we are not yet arrived at a method of extracting roots of all equations, so neither has the integral calculus arrived at perfection: and as in the former we are obliged to have recourse to approximation, so in the latter

latter we have recourse to infinite series, when we cannot attain to a perfect integration. See the article *SERIES*.

CALDARIUM, in the antient baths, a certain vault, or room, made so as to collect the vapours, and produce sweating: whence it signifies a hot-house, bagnio, stove, or sweating-room.

CALEFACTION, the production of heat in a body from the action of fire, or that impulse impressed by a hot body upon other bodies about it. This word is used in pharmacy, by way of distinction from coction, which implies boiling; whereas calefaction is only heating a thing.

CALenburg-CASTLE, the capital of a dutchy of the same name, in lower Saxony, in Germany, situated upon the river Leine, about fifteen miles south of Hanover: east longit. $9^{\circ} 40'$, and north lat. $52^{\circ} 20'$.

CALENDAR, *calendarium*, a distribution of time, accommodated to the various uses of life, but more especially such as regard civil and ecclesiastical polity; in which sense it differs nothing from the modern almanacs. See *ALMANAC*.

The first calendar was made by Romulus, who divided the year into ten months only, beginning on the first day of March, and containing 304 days, in which time he imagined the sun performed his course through all the seasons.

This calendar was reformed by Numa Pompilius, who added two months more, *viz.* January and February, placing them before March: his year began on the first of January, and consisted of 355 days. This was afterwards improved by Julius Cæsar, and was by him called the julian account, which reduced the year to 365 days, 6 hours; and was retained in most protestant countries, and in our nation till the year 1752. This year is disposed into quadriennial periods, whereof the three first years, which were called commons, consisted of 365 days, and the fourth bissextile, of 366. See the article *BISSEXTILE*.

The julian account was afterwards corrected by pope Gregory XIII. which on that account obtained the name of the gregorian calendar, or new stile, the julian being called the old stile: and tho' the gregorian calendar be preferable to the julian, yet it is not without its defects: perhaps, as Tycho Brahe and Cassini imagine, it is impossible ever to bring the year to a perfect justness. For an ac-

count of the difference of these computations, see the article *BISSEXTILE*.

Julian christian **CALENDAR**, that wherein the days of the week are determined by the letters A, B, C, D, E, F, G, by means of the solar cycle; and the new and full moons, especially the paschal full moon, with the feast of easter, and the other moveable feasts depending thereon, by means of golden numbers rightly disposed through the julian year. See the articles *CYCLE*, *DOMINICAL LETTER*, and *GOLDEN NUMBER*.

Gregorian **CALENDAR**, that which, by means of epacts rightly disposed, through the several months, determines the new and full moons, and the time of easter, with the moveable feasts depending thereon, in the gregorian year. Therefore the gregorian calendar differs from the julian, both in the form of the year, and in that epacts are substituted instead of golden numbers. See the article *EPACT*.

Reformed, or corrected **CALENDAR**, that which, setting aside golden numbers, epacts, and dominical letters, determines the equinox, with the paschal full moon, and the moveable feasts depending thereon, by astronomical computations, according to the rudolphine tables. This calendar was introduced among the protestant states of Germany in the year 1700, when 11 days were, at once, thrown out of the month of February, by which means the corrected stile agrees with the gregorian.

CALENDAR brothers, *fratres calendarii*, a sort of devout fraternities, composed of ecclesiastics as well as lay-men; whose chief business was to procure masses to be said, and alms distributed, for the souls of such members as were deceased. They also made laws and regulations for church discipline within their several districts; which became of force by being confirmed by abbots or other prelates. They received legacies and donations of money, lands, &c. out of which they defrayed the charge of obits, wax-candles, and the like; what remained was spent in a collation in memory of the dead. They were also denominated calend brothers, by reason they usually met on the calends of each month, though in some places only once a quarter.

Astronomical **CALENDAR**, an instrument engraved upon copper-plates; printed on paper, and pasted on board, with a brass-slider which carries a hair, and shews by

inspection, the sun's meridian altitude, right ascension, declination, rising, setting, amplitude, &c. to a greater exactness than our common globes will shew.

CALENDER, a machine used in manufactories, to press certain woollen and silken stuffs, and linens, to make them smooth, even, and glossy, or to give them waves, or water them, as may be seen in mohairs and tabbies. This instrument is composed of two thick cylinders, or rollers, of very hard and polished wood, round which the stuffs, to be calendered, are wound: these rollers are placed cross-ways between two very thick boards, the lower serving as a fixed base, and the upper moveable, by means of a thick screw, with a rope fastened to a spindle, which makes its axis: the uppermost board is loaded with large stones cemented together, weighing 20000 lb, or more. It is this weight that gives the polish, and makes the waves on the stuffs about the rollers, by means of a shallow indenture or engraving cut in it.

At Paris they have an extraordinary machine of this kind, called the royal calender, made by order of M. Colbert; the lower table or plank of which is made of a block of smooth marble, and the upper lined at bottom with a plate of polished copper.

There are also calenders without wheels, which are wrought by a horse harnessed to a wooden bar, which turns a large arbor placed upright; at the top of which, on a kind of lanthorn, is wound a rope, the two ends of which being fastened to the two extremities of the upper plank of the engine, give it motion. But the horse calender is in less esteem than the wheel kind, as the motion of this latter is more equable and certain.

CALENDER also denotes the workman who manages the machine above described; applying the cloth or stuff underneath, after having first wound it on the rollers.

CALENDERS is also the name of a sort of devils spread through Turkey and Persia, whose order is not in general esteem among the Mahometans, as being reputed less abstemious and strict in morals than some other orders.

CALENDRING, the passing of cloths through the calender. See the article **CALENDER**.

We read of calendring worsteds. To improve linen farther, the drapers get several sorts of their cloths calendered; whereby their threads are made to lie flat-

ter and smoother. Houghton describes calendring as performed by rolling the cloths on great wooden rollers, and laying them under a huge wooden box full of weighty materials, which is drawn by a horse to and fro on several of these rollers.

CALENDs, *calendæ*, in roman chronology, the first day of each month, so called from the greek *καλέω*, to proclaim: it being customary, on those days to proclaim the number of holy-days in each month.

The calends were reckoned backwards, or in a retrograde order: thus, the first of May begins the Calends of May; the 30th of April was the second of the calends of May; the 29th, the third, &c. to the 13th where the ides commence; which are also numbered in a retrograde order to the 5th, where the nones begin, and these are numbered after the same manner to the first of the month, which is the calends of April. The rules of computation by calends are expressed in the following verses:

Prima dies mensis cujusque est dicta calendæ:

*Sex Maius nonas, Julius, October, & Mars;
Quatuor at reliqui: habet idus quilibet octo;
Inde dies reliquos omnes dic esse calendas;
Quas retro numerans, dicis a mense sequente.*

Hence to find the day of our month answering to that of the calends, to the number of days in the preceding month add two, and from this sum subtracting the number of calends given, the remainder will be the day of our month: thus the fourth of the calends of June is found to answer to the twenty-ninth of May: and so in other cases. See the articles **IDES** and **NONES**.

CALENDULA, **MARYGOLD**, in botany, a genus of the polygamia-necessaria class of plants, the compound flower of which is radiated, and the particular hermaphrodite ones tubulose, and lightly divided into five segments of the length of the cup: there are no central seeds of the discus; those of the periphery are sometimes, though rarely, solitary; they are of a membranaceous substance, compressed and cordated.

This plant, among physicians, passes for alexipharmic and hysteric.

CALENTES, in logics, a sort of syllogism in the fourth, commonly called galenical, figure, wherein the major proposition is universal and affirmative; and the

the second or minor, as well as the conclusion, universal and negative.

This is intimated by the letters it is composed of, where the A signifies an universal affirmative, and the two E's as many universal negatives. *Ex. gr.*

CA. Every affliction in this world is only for a time.

IE. No affliction, which is only for a time, ought to disturb us.

tEs. No affliction ought to disturb us, which happens in this world.

The Aristotelians, not allowing the fourth figure of syllogisms, turn this word into CEIAntEs, and make it only an indirect mood of the first figure.

CALENTURE, *calentura*, in medicine, a feverish disorder incident to sailors in hot climates; the principal symptom of which is, their imagining the sea to be green fields: hence, attempting to walk abroad in these imaginary places of delight, they are frequently lost.

The cause of this symptom is generally supposed to be a plethora or viscosity of the juices. The person thus affected has a fierce look, is very unruly, and at the same time so eager to get over-board to the imaginary green fields, and so strong, that sometimes six men are scarce sufficient to detain him. The symptoms generally happen in the night-time, and seem to be most frequent about the Mediterranean, in the hot season of the year, and affect chiefly the strongest, those that are young and of a sanguine complexion. The pulse here is sometimes so low, that it can scarce be felt, though sometimes it beats very strong. The patient seldom complains of the usual symptoms of a fever. After the struggle is over, and the distemper abated, a soreness and heaviness of the body are generally felt. The attack is usually sudden; if this distemper be taken in time, it seldom proves mortal.

The patient ought to be narrowly watched, for fear he should fall over-board: rest should be encouraged: barley water with white wine is a proper drink: all malt liquors and spirits are prejudicial in general, a slender liquid diet is the most convenient. The first step to be taken in the cure is, to bleed the patient; but it sometimes happens in this case, that the vessels are so full, and the juices so viscid, that several vessels must be opened, to obtain the desired quantity of blood; for which reason the orifice should be made pretty large.

CALF, *vitulus*, in zoology, the young of

the ox-kind. See the article BOS.

Among sportsmen, the term calf is used for a hart or hind of the first year: the same term is also used for the young of the whale.

There are two ways of breeding calves; one, when they are allowed to suck their dams all the year round, chiefly used in countries where pasture is cheap; and the other, when being taken from their dams after sucking a fortnight, they are taught to drink milk, or milk and water, out of a tub. The former, however, of these methods is allowed to make the best cattle.

Sea-CALF, the english name of the *phoca* of authors. See the article PHOCA.

CALF'S-SNOUT, in botany, the name of the antirrhinum of botanists. See the article ANTIRRHINUM.

CALIBER, or CALIPER, properly denotes the diameter of any body: thus we say, two columns of the same caliber, the caliber of the bore of a gun, the caliber of a bullet, &c. See CANNON, &c.

CALIBER-COMPASSES, the name of an instrument, made either of wood, iron, steel, or brass: that used for measuring bullets consists of two branches, bending inwards, with a tongue fixed to one of them, and the other graduated in such a manner, that if the bullet be compressed by the ends of the two branches, and the tongue be applied to the graduated branch, it will shew the weight of the bullet. See plate XXXV. fig. 3.

CALIBER also signifies an instrument used by carpenters, joiners, and bricklayers, to see whether their work be well squared.

CALICUT, a town situated on the Malabar-coast, in the hither peninsula of India, subject to its own prince; east longitude 75° , and north latitude $11^{\circ} 20'$.

This was the first port the Portuguese made in India, after sailing round the cape of Good-hope.

CALIDUCTS, in antiquity, a kind of pipes, or canals, disposed along the walls of houses and apartments, used, by the antients, for conveying heat to several remote parts of the house, from one common surface.

CALIGA, in roman antiquity, was the proper soldier's shoe, made in the sandal-fashion, without upper-leather to cover the superior part of the foot, though otherwise reaching to the middle of the leg, and fastened with thongs. The sole of the caliga was of wood, like the sabot of

of the french peasants, and its bottom stuck full of nails, which clavi are supposed to have been very long in the shoes of the scouts and sentinels; whence these were called by way of distinction, *caligæ speculatoriæ*, as if, by mounting the wearer to a higher pitch, they gave a greater advantage to the sight. The others will have the *caligæ speculatoriæ* to have been made soft and woolly, to prevent their making a noise.

CALIPH, the supreme ecclesiastical dignity among the Saracens; or, as it is otherwise defined, a sovereign dignity among the mahometans, vested with absolute authority in all matters relating both to religion and policy.

It signifies in the arabic, successor or vicar: the saracen princes assumed this title as descendants from Mahomet; the caliphs bearing the same relation to Mahomet, that the popes pretend they do to Jesus Christ, or St. Peter. It is at this day one of the grand signior's titles, as successor of Mahomet; and of the sopher of Persia, as successor of Ali.

CALIPHATE, the dignity or office of caliph. See the preceding article.

CALIPPIC PERIOD, an improvement of the cycle of Meton, of nineteen years, which Calippus, a famous grecian astronomer, finding in reality to contain nineteen of Nabonassar's years, four days, and $\frac{331}{455}$, he, to avoid fractions, quadrupled the golden number, and by that means made a new cycle of seventy-six years; which time being expired, he supposed the lunation, or changes of the moon, would happen on the same day of the month, and hour of the day, that they were on seventy-six years before.

It is, however, demonstrated, that the calippic period itself is not accurate; that it does not bring the new and full moons precisely to their places; but brings them too late, by a whole day in 553 years. See the article **CYCLE**.

CALIXTINS, in church-history, a sect of christians, in Bohemia and Moravia: the principal point in which they differed from the church, was the use of the chalice, or communicating in both kinds.

CALIXTINS, is also a name given to those, among the lutherans, who follow the sentiments of George Calixtus, a celebrated divine, who opposed the opinion of St. Augustine, on predestination, grace, and free-will.

CALKING, or **CALQUING**. See the article **CALQUING**.

CALKINS, the prominent parts at the extremities of a horse-shoe, bent downwards, and forged to a sort of point. Calkins are apt to make horses trip; they also occasion blymes, and ruin the back sinews. If fashioned in form of a hare's ear, and the horn of a horse's heel be pared a little low, they do little damage; whereas the great square calkins quite spoil the foot.

Calkins are either single or double, that is, at one end of the shoe, or at both: these last are deemed less hurtful, as the horse can tread more even.

CALL, among hunters, a lesson blown upon the horn, to comfort the hounds.

CALLS, *natural and artificial*, among fowlers, a sport much practised during the wooing season of partridges, especially for taking cock-partridges; for which they put a hen into a cage, to call and bring them near. The hen-partridge should be set near a hedge, in a thin, open, wire-cage, so that she may be seen, at a good distance: then the net, called hallier, should be placed quite round the cage, each part about the distance of twenty feet: the fowler should retire behind the hedge.

Artificial CALLS are best made of box, walnut-tree, or the like: they are formed of the bigness of an hen's egg, bored through from end to end; about the middle there must be a hole hollowed within, to the bottom; then have a pipe of a swan's quill, and the bone of a cat's foot, opened at one end, which must be conveyed into the hole at the end, and so thrust into the hole at the middle; take afterwards a goose quill, opened at both ends, and put it in at the other end of the call: blow into the quill, and it will make the like noise as the partridge-rock does.

CALLA, in botany, a genus of the gynandria-polyandria class of plants, having no corolla; the fruits are berries of one cell each, containing many seeds of an oblong cylindrical figure, obtuse at both ends.

CALLAO, a port-town in a little island on the coast of Peru, in South America, opposite to Lima; west longitude 76° and south latitude 12° .

CALLEN, a town of Ireland, in the county of Kilkenny, and province of Leinster, about ten miles south-west of Kilkenny; west longit. $7^{\circ} 22'$, and north latitude $52^{\circ} 25'$.

CALLICARPA, in botany, a genus of the tetrandria monogynia class of plants, the calyx

calyx of which is a perianthium, consisting of one campanulated leaf, divided into four segments at the edge; the corolla is expanded, and consists of one petal divided also into four segments; the fruit is a globose, smooth, berry, containing four oblong compressed callous seeds.

CALLICO, in commerce, a kind of linen manufacture, made of cotton, chiefly in the East-Indies, some of which are painted with various flowers of different colours; and others that are never dyed, having a stripe of gold and silver quite through the piece; and at each end they fix a tissue of gold, silver and silk, intermixed with flowers. This manufacture is brought hither by the East-India company, and is re-exported by merchants to other parts of Europe. The general wear of stained or printed india callicoes in this nation having become a general grievance, and occasioning unspeakable distress upon our own manufacturers, they were prohibited by stat. 7 Geo. I. cap. vii.

CALLIFORNIA, a large country of the West-Indies, lying between 116° and 138° west longitude, and between 23° and 46° north latitude. It is uncertain whether it be a peninsula or an island.

CALLIGONUM, in botany, a genus of the polyandria-digynia class of plants, having no flower; the fruit is an oval, compressed, striated, hairy pericarpium, with bifid tops, turning backwards; the seed is single.

CALLIGRAPHUS, in antiquity, a copyist or scrivener, who transcribed, in a fair hand, what the notaries had taken down in notes, or minutes, being generally in a kind of cypher or short-hand, which, as they were in that hand, being understood by few, were copied over fair, and, at length, by persons who had a good hand, for sale, &c.

CALLING *the house*, in the british parliament, is the calling over all the members names, every one answering to his own, and going out of the house, in the order in which he is called; this they do, in order to discover whether there be any persons there, not returned by the clerk of the crown; or if any member be absent without leave of the house.

CALLIPÆDIA, *Καλλιπαίδεια*, the art of getting or breeding fine and beautiful children.

We find divers rules and practices relating to this art, in antient and modern writers; among the magi, a sort of medi-

cines called *ermesia* was prescribed to pregnant women, as a means of producing a beautiful issue. Of this kind were the kernels of pine nuts ground with honey, myrrh, saffron, palm wine, and milk. The Jews are said to have been so solicitous about the beauty of their children, that care was taken to have some very beautiful child (such as was Jochanan the disciple of Judah, author of the *mischna*) placed at the door of the public baths, that the women at going out being struck with his appearance, and retaining the idea, might all have children as fine as he. The Chinese take still greater care of their breeding women, to prevent uncouth objects of any kind from striking either their sense or imagination; musicians are retained to entertain them nightly with agreeable songs or odes, in which are set forth all the duties and comforts of the conjugal and domestic life; that the infant may take good impressions even before it is born, and not only come forth agreeably formed in body, but well disposed in mind.

Callipædia, nevertheless, seems to have been first erected into a just art by Claude Quillet de Chinon, a French abbot, who under the fictitious name of Calvidus Lætus, has published a fine latin poem, in four books, under the title of *callipædia, seu de pulchra proli habenda ratione*; wherein are contained all the precepts of that new art.

CALLISTIA, in grecian antiquity, a lesbian festival, wherein the women presented themselves in Juno's temple, and the prize was assigned to the fairest. There was another of these contentions at the festival of Ceres Eleusinia, among the Parthians, and another among the Eleans, where the most beautiful man was presented with a complete suit of armour, which he consecrated to Minerva, to whose temple he walked in procession, being accompanied with his friends, who adorned him with ribbands, and crowned him with a garland of myrtle.

CALLITRICHE, in botany, a genus of the monandria digynia class of plants, without any calyx; the corolla consists of two incurved acuminate cuniculated, opposite petals; the fruit is a roundish four cornered compressed capsule, containing two cells; in each of which is a single oblong seed.

CALLOSUM CORPUS, in anatomy, a whitish hard substance, joining the two hemi-

hemispheres of the brain, and appears in view when the two hemispheres are drawn back. See the article BRAIN.

In this part Lancisi and several others have supposed the soul particularly to reside.

CALLUS, or **CALLOSITY**, in a general sense, any cutaneous, corneous, or osseous hardness, whether natural or preternatural: but most frequently it means the callus generated about the edges of a fracture, provided by nature to preserve the fractured bones, or divided parts, in the situation in which they are replaced by the surgeon.

A callus, in this last sense, is a sort of jelly, or liquid viscous matter, that sweats out from the small arteries and bony fibres of the divided parts, and fills up the chinks, or cavities, between them. It first appears of a cartilaginous substance, but at length becomes quite bony, and joins the fractured part so firmly together, that the limb will often make greater resistance to any external violence with this part, than with those which were never broken.

But as the new flesh in wounds will often sprout up too fast, so will the callus in fractures, and by this means render the limb uneven and deformed; the only measure to prevent this luxuriance; is by making the bandage somewhat tighter than ordinary, and wetting it first with spirits of wine. When the callus is indurated, we have no medicine that will destroy it, or take it down: however, the emplastrum de ranis vigon. cum mercurio, tying a plate of lead over it, is prescribed for taking it down.

CALLUS is also a hard, dense, insensible knob, rising on the hands, feet, &c. by much friction and pressure against hard bodies.

CALM, in the sea-language, is when there is no wind stirring.

That tract of sea, to the northward of the equator, between 4° and 10° of latitude, lying between the meridians of Cape Verde, and of the easternmost island of that name, seems to be a place condemned to perpetual calms: the little winds that are being only some sudden uncertain gusts of very small continuance, and less extent. The Atlantic ocean, near the equator, is very much subject, nay always attended with these calms.

CALMAR, the capital of the province of Gothland, in Sweden, situated on the coast of the Baltic sea, about forty miles

north of Carelsroon; east longitude 16° , and north latitude $56^{\circ} 40'$.

CALMUCKS, certain wandering tribes of hords of Tartars, inhabiting the country north of the Caspian sea, under the protection of Russia.

CALNE, a borough-town of Wiltshire about twenty miles north of Salisbury which sends two members to parliament west longit. 2° , and north lat. $51^{\circ} 30'$.

CALOGERI, in church-history, monks of the greek church, divided into three degrees, the novices, called archari; the ordinary professed, called microchemi and the more perfect, called megalochemi: they are likewise divided into cenobites, anchoiets, and recluses. The cenobites are employed in reciting their office from midnight to sunset, they are obliged to make three genuflexions at the door of the choir; and returning, to bow to the right and to the left, to their brethren. The anchoiets retire from the conversation of the world, and live in hermitages, in the neighbourhood of the monasteries; they cultivate a little space of ground, and never go out but on Sundays and holy days, to perform their devotions at the next monastery. As for the recluse, they shut themselves up in grottos and caverns, on the tops of mountains, which they never go out of, abandoning themselves entirely to providence they live on the alms sent them by the neighbouring monasteries.

CALOMEL, in the materia medica, a name given to mercurius dulcis, sublimated six times; the preparation is done thus.

Take corrosive sublimate a pound, purified mercury nine ounces; add the quicksilver to the mercury, reduce to powder, and digest them together in a glass matrass, in a gentle sand heat, frequently shaking the vessel, till the whole is united; when they are thus mixed, increase the heat, so as to sublimate the whole, take out the sublimate, and scrape off the acrid part that is found at the top of it, and if any globules of mercury appear, separate them also; let the sublimation be repeated six times. It is a gentle purgative, and a very noble attenuant. It is the greatest of all medicines against worms, and is now the general remedy in a gonorrhoea. The common method of giving it is in a bolus, over night ten or twelve grains for a dose, and purging draught the next morning. Rubbed with an equal quantity of su-

phur antimonii auratum, it is recommended as a powerful and safe alterative.

CALOPHYLLUM, in botany, a genus of the polyandria-monogynia class of plants, whose corolla consists of four roundish, hollow, patent petals, and is larger than the cup: the fruit is a large globose drupe, with only one cell: the seed is a large, single, globose, acuminate nut.

CALOTTE, a cap or coif of hair, satin, or other stuff: an ecclesiastical ornament in most popish countries. See **CAP**.

CALOTTE, in architecture, a round cavity or depression, in form of a cap or cup, lathed and plastered, used to diminish the rise or elevation of a moderate chapel, cabinet, alcove, &c. which, without such an expedient, would be too high for other pieces of the apartment.

CALPE, the mountain, at the foot of which, towards the sea, Gibraltar stands. It is half a league in height towards the land, and so steep, that there is no approaching it on that side.

CALQUING, or **CALKING**, a term used in painting, &c. where the backside of any design is covered with a black or red colour, and the strokes, or lines, traced through, on a waxed plate, wall, or other matter, by passing lightly over each stroke of the design, with a point, which leaves an impression of the colour on the plate or wall.

CALTHA, **MARSH-MARYGOLD**, in botany, a genus of the polyandria-polygynia class of plants; the flower of which consists of five large, oval, plane, patent, deciduous petals: the fruit is short, acuminate, patent, bicarinate, and open at the upper suture; the seeds are numerous and roundish, and adhere to the upper future.

CALTROP, in military affairs, an instrument with four iron points, disposed in a triangular form, so that three of them are always on the ground, and the fourth in the air. They are scattered over the ground where the enemy's cavalry is to pass, in order to embarrass them.

CALTROP, in botany, the english name of the *tribulus* of botanists. See the article **TRIBULUS**.

CALVARIA, in anatomy, the hairy scalp, or upper part of the head, which, either by disease, or old age, grows bald first. See the articles **HEAD** and **CALVITIES**.

CALVARY, a term used in popish countries, for a sort of chapel of devotion, raised on a little hill near the city, in me-

mory of the place where Jesus Christ was crucified, near Jerusalem.

CALVARY, in heraldry, a cross so called, because it resembles the cross on which our Saviour suffered. It is always set upon steps. See plate XXXV. fig. 4.

CALVI, a town of the province of Lavoro, in the kingdom of Naples, situated near the sea, about fifteen miles north of the city of Naples; east longit. $14^{\circ} 45'$, and north latitude $41^{\circ} 15'$.

CALVI is also the name of a sea-port in the island of Corsica, situated on a bay, on the west side of the island, about forty miles south-west of Bastia; east longit. $9^{\circ} 5'$, and north lat. $42^{\circ} 16'$.

CALVINISTS, in church-history, those who follow the opinions of John Calvin, one of the principal reformers of the church, in the XVIth century, a person of great parts and industry, and of considerable learning; whose doctrine still subsists in its greatest purity at Geneva, where it was first broached, and from whence it was propagated. This is the prevailing religion of the United Provinces. In England, it is confined among the dissenters; and, in Scotland, it subsists in its utmost rigour.

The calvinists are great advocates for the absoluteness of God's decrees, and hold that election and reprobation depend on the mere will of God, without any regard to the merit or demerit of mankind; that he affords to the elect an irresistible grace, a faith that they cannot lose, which takes away the freedom of will, and necessitates all their actions to virtue.

The calvinists believe that God foreknew a determinate number, whom he pitched upon to be persons, in whom he would manifest his glory; and that having thus foreknown them, he predestinated them to be holy, in order to which he gives them an irresistible grace, which makes it impossible for them to be otherwise.

CALVITIES, or **CALVITIUM**, in medicine, baldness, or a want of hair, particularly on the sciniput, occasioned by the moisture of the head, which should feed it, being dried up, by some disease, old age, or the immoderate use of powder, &c. See the article **ALOPECIA**.

CALUMET, a mythic kind of pipe used by the american Indians, as the ensign of peace, and for religious fumigations. It is made of red, black, or white marble; the head resembles our tobacco-pipes, but larger; and is fixed on a hollow reed, to hold it for smoking: they adorn it with

rounds of feathers and locks of hair, or porcupines quills, and in it they smoke in honour of the sun, especially if they want fair weather, or rain. This pipe is a pass and safe conduct amongst all the allies of the nation who has it given: in all embassies the ambassador carries it as an emblem of peace, and it always meets with a profound regard; for the savages are generally persuaded, that a great misfortune would befall them, if they violated the public faith of the calumet.

CALX properly signifies lime, but is also used by chemists and physicians for a fine powder remaining after the calcination, or corrosion, of metals and other mineral substances. See **CALCINATION**.

CALX ANTIMONII is prepared of diaphoretic antimony, with three times its weight of nitre, and afterwards washed from its salts: it is said to be a good diaphoretic.

Calx of tin is called putty; that of brass, æs ustum: and that of lead, ceruss. See **PUTTY**, **ÆS USTUM**, and **CERUSS**.

CALX NATIVA, in natural history, a kind of marly earth, of a dead whitish colour, which, if thrown into water, makes a considerable bubbling and hissing noise, and has, without previous burning, the quality of making a cæment like lime, or plaster of Paris.

CALX VIVA, **QUICK LIME**, that whereon no water has been cast, in contradistinction to lime which has been slaked by pouring water on it.

CALX, in anatomy, the same with *calcanæum*. See the article **CALCANÆUM**.

CALYCISTÆ, an appellation given by Linnæus to those botanists, who have classed plants according to the different structure of the calyx, or cup of the flower; such was Magnolius.

CALYPTRA, among botanists, a thin membranaceous involucre, usually of a conic figure, which covers the parts of fructification. The capsules of most of the mosses have calyptra.

CALYX, among botanists, a general term expressing the cup of a flower, or that part of a plant which surrounds and supports the other parts of the flower.

The cups of flowers are very various in their structure, and on that account distinguished by several names, as perianthium, involucre, spathe, gluma, &c. See the articles **PERIANTHIUM**, &c.

CAM, a river, antiently called Grant, which, rising in Hertfordshire, runs north-east by Cambridge, and afterwards

continues its course northwards, to the isle of Ely, where it falls into the river Ouse.

CAMÆA, in natural history, a genus of the semipellucid gems, approaching to the onyx structure, being composed of zones, and formed on a crystalline basis; but having their zones very broad and thick, and laid alternately on one another, with no common matter between; usually less transparent, and more debased with earth, than the onyxes.

1. One species of the camæa is the dull-looking onyx, with broad black and white zones; and is the camæa of the moderns, and the arabian onyx: this species is found in Egypt, Arabia, Persia, and the East-Indies. 2. Another species of the camæa is the dull, broad-zoned, green and white camæa, or the jaspi-cameo of the Italians: it is found in the East-Indies, and in some parts of America.

3. The third is the hard camæa, with broad white and chestnut-coloured veins.

4. The hard camæa, with bluish, white, and flesh-coloured broad veins, being the fardonix of Pliny's time, only brought from the East-Indies.

CAMAIEU, or **CAMEHUIA**, in natural history, the same with camæa. See the preceding article.

This word is also used to express a stone on which are found various figures and representations of landships, &c. formed by a kind of *lusus naturæ*, so as to exhibit pictures without painting. It is likewise applied to any kind of gem on which figures are engraven, either indentedly or in relief.

CAMAIEU, is also a term in painting, when there is only one colour, the lights and shades being of gold, or on a golden and azure ground. It is chiefly used to represent basso-relievos.

CAMALDULIANS, a religious order founded by St. Romauld, in a little plain, on the mount Apennine, called Camaldali, situated in the state of Florence.

The manner of life first enjoined this order, was that they dwell in separate cells, and met together only at the time of prayer: some of them, during the two lents of the year, observed an inviolable silence; and others, for the space of an hundred days. On Sundays and Thursdays they fed on herbs, and the rest of the week only on bread and water. These constitutions were, however, a little moderated sometime afterwards. This hermitage is now accounted very rich.

CAM-

CAMBAIA, a city of the province of Cambaia, or Guzarat, in the hither peninsula of India; it is a very large city, and had once a great trade, now removed to Surat; east longitude 72° , and north lat. $23^{\circ} 30'$.

CAMBER-BEAM, among builders, a piece of timber in an edifice, cut arch-wise, or with an obtuse angle in the middle, commonly used in platforms, as church-leads, and on other occasions where long and strong beams are required.

CAMBERED DECK, in ship-building, one that lies compassing, or higher in the middle than at either end; by no means fit for a ship of war.

CAMBLET, or **CAMLET**, a plain stuff, composed of a warp and woof, which is manufactured on a loom, with two treadles, as linens and flannins are.

There are cambiets of several sorts, some of goat's hair, both in the warp and woof; others, in which the warp is of hair, and the woof half hair and half silk; others again, in which both the warp and the woof are of wool; and lastly, some, of which the warp is of wool and the woof of thread. Some are dyed in thread, others are dyed in the piece, others are marked or mixed; some are striped, some waved or watered, and some figured.

Camblets are proper for several uses, according to their different kinds and qualities; some serve to make garments both for men and women; some for bed curtains; others for household furniture, &c. See the article **MOHAIR**.

CAMBODIA, the capital of a kingdom of the same name in India, beyond the Ganges; east long. 104° , and north lat. $12^{\circ} 30'$.

The kingdom of Cambodia extends from 9° to 15° of north latitude, being bounded by the kingdom of Laos on the north, Cochin-china on the east, the indian ocean on the south, and by the bay of Siam on the west.

CAMBOGIA, in botany, a genus of the polyandria monogynia class of plants, the calyx of which is a perianthium, consisting of four roundish concave deciduous leaves, the corolla is made up of four roundish oblong concave petals, with oblong unguis; the fruit is a roundish octangular apple, containing eight cells, in which are lodged single oblong, kidney-shaped compressed seeds.

CAMBRAÏ, a city in the french Netherlands, situated on the river Schelde, near its source; east longitude $3^{\circ} 15'$,

and north latitude $50^{\circ} 15'$.

It is a large and well built city, considerable for its linen manufacture, especially cambricks, which took their name from hence.

CAMBRICKS, a species of very fine white linen, made of flax at Cambray.

CAMBRIDGE, the capital of Cambridge-shire, situated upon the river Cam, about fifty-five miles north of London, and sixty north-east of Oxford; east longitude 5° , and north lat. $52^{\circ} 15'$.

Cambridge is most remarkable on account of its university, which consists of sixteen colleges, wherein are educated about fifteen hundred students. There are fourteen parishes in the town, which is said to contain about six thousand inhabitants.

New **CAMBRIDGE**, a town of New-England, about three miles west of Boston; likewise remarkable for an university, consisting of three colleges; west longit. $70^{\circ} 4'$, and north lat. 42° .

CAMEA, or **CAMÆA**, in natural history. See the article **CAMÆA**.

CAMEL, *camelus*, in zoology, a genus of quadrupeds, of the order of the *pecora*; distinguished from the rest by having no horns.

This genus comprehends the camel, properly so called, with two bunches on its back; the dromedary, or camel with a single bunch; the *glama*, or peruvian camel, with a gibbole breast and even back; and the *pacos*, or camel with no gibbosity at all.

The camel is larger than the dromedary, and covered with a fine fur, shorter as well as softer than that of the ox-kind: only about the bunches there grow hairs nearly a foot long. It is a native of Asia, particularly of Bactria, and makes an excellent beast of burden. See plate XXXV. fig. 6.

CAMELEON, or **CHAMÆLEON**, in zoology. See the article **CHAMÆLEON**.

CAMELFORD, a borough-town of Cornwall, about twenty miles west of Launceston; west longit. 5° , and north lat. $50^{\circ} 40'$.

It sends two members to parliament.

CAMELITA BOS, in zoology, a kind of wild bull, with a bunch on its back: probably the same with the *bison*.

CAMELLIA, in botany, a genus of the monadelphia-polyandria class of plants: the flower consists of five ovated petals, connected vertically at the base; the fruit is a turbinated, lignose, and furrowed capsule; the seeds are numerous and small.

CAMELOPARDALIS, in zoology, a species

species of cervus, with the simple horns and the forelegs very long. See CERVUS. This is one of the most extraordinary animals in the world; when it stands erect it measures to the head not less than sixteen feet from the ground, and from the front of the nose to the tail eighteen feet.

CAMELUS, the CAMEL, in zoology. See the article CAMEL.

CAMERA OBSCURA, in optics, a machine representing an artificial eye, wherein the images of external objects are exhibited distinctly, in their native colours, either invertedly, or erect.

The camera obscura, or darkened room, is made after two different methods; one is the camera obscura, properly so called, that is, any large room made as dark as possible, so as to exclude all light, but that which is to pass through the hole and lens in a ball, fixed in the window in the said room,

The other is made in various forms, as that of a box, whose sides fold out, &c. for the conveniency of carrying it from place to place.

Construction of the CAMERA OBSCURA. For the construction of a camera obscura, 1. Darken the room EF (plate XXXV. fig. 7.) leaving only one little aperture open, in the window, at V, on the side IK, facing the prospect ABCD. 2. In this aperture fit a lens, either plane convex or convex on both sides. 3. At a due distance, to be determined by experience, spread a paper, or white cloth, unless there be a white wall for the purpose: then on this, GH, the desired objects, ABCD, will be delineated invertedly. 4. If you would have them appear erect, place a concave lens between the center and the focus of the first lens; or receive the image on a plane speculum, inclined to the horizon, under an angle of 45° ; or by means of two lenses included in a draw-tube, instead of one. If the aperture does not exceed the bigness of a pea, the objects will be represented without any lens at all.

For the construction of a portable camera obscura, the box, or chest, must be in breadth and length proportionable to the different magnitude of the diameter of the lens. In one of the sides fix a lens, and white paper on an opposite glass, at a proper distance; and having made a little hole near the glass, you may, through that, see the images of the objects, in a

beautiful manner, on the paper.

Philosophy of the CAMERA OBSCURA. The following particulars are to be attended to in this philosophical contrivance. First, that the lens be extremely good, or free from any veins, blebs, &c. which may distort and blemish the picture. Secondly, that the lens be placed directly against the object whose picture you would have perfectly formed to contemplate, for, if the glass has any other position to the object, the image will be very imperfect, indistinct, and confused. Thirdly, care ought to be taken that the ball be sufficiently large, and the frame in which it is placed not too thick, that so there may be sufficient room for turning the ball every way to take in as many objects as possible, and to render the use thereof more complete. Fourthly, the lens ought to be of a just magnitude or aperture; for, if it be too small, the image will be obscure, and the minute parts not visible at a distance for want of requisite light. On the other hand, if the aperture be too large, the image will be confused, and become indistinct by too much light. Therefore, fifthly, if by experience we find that an aperture of two inches diameter is best for a lens of six feet focal distance, then the diameter of any other lens of a different focal distance, ought to be in the subduplicate ratio of six to the said focal distance, that the object, or its image rather, may be equally bright and distinct in both. Sixthly, we ought not to attempt to exhibit a picture of objects in a dark room, unless the sun shines upon, or strongly illuminates the objects; for mere day-light is not sufficient for this purpose, the greatest beauty in this phenomenon being the exquisite appearance and contrasts of lights and shadows, none of which can appear but from an object placed in the sun-beams, without which every thing looks dark and dull, and makes a disagreeable figure. Therefore, seventhly, the window or the side of the room where the scioptric ball is used, ought to look towards that quarter directly upon which the sun shines, that so the illuminated sides of objects may present themselves to the lens, and appear more glorious in the picture. Eighthly, it is easy to infer, that the best time of the day for this experiment is about noon, because the sun-beams are strongest, and of course the picture most luminous and distinct: also, that a north window



is the best; though, for viewing the shadows in greatest perfections, an east or west window will answer the end best. Ninthly, as the image is formed only by the reflected rays of the sun, so due care should be taken that none of the sun's direct rays fall on the lens in the window; for, if they do, they will by mixing with the former greatly disturb the picture, and render it very confused and unpleasant to view. Tenthly, as white bodies reflect the incident rays most copiously, and black ones absorb them most; so, to make the picture most perfect, it ought to be received upon a very white surface, as paper, painted cloth, a wall, &c. bordered round with black, so that the collateral rays which come from on each side the object may be stifled, and not suffered to disturb the picture by reflection.

These are the necessary precautions for the due ordering of the various circumstances of this experiment. We shall now enumerate the principal phenomena of the dark chamber. The first of which is, that an exact and every way similar image is formed of an external object; for pencils of rays, coming from all parts of the object, will represent those points in such a manner and position, as will be very proportional and correspondent to their respective positions and distances in the object, so that the whole in the image shall bear an exact similitude or likeness of the object in every respect. The second phenomenon is, that the image will bear the same proportion to the object, whether a line, superficies, or solid, as their distances from the glass respectively. Hence the larger the focal distance of the glass, the more ample will be the picture of the same object, but the less will be the space or compass of the plan; or respective view. The third phenomenon is, that the image or picture of the object is inverted; and this is not the effect of the glass, but the crossing the rays in the hole through which they pass into the room; for, if a very small hole were made in the window-shutter of a darkened room, the objects without would be all seen inverted, those which come from the upper part of the object going to the lower part of the image, and *vice versa*. All that the glass does is to render the image distinct, by converging the rays of every pencil to their proper focus in the picture, the position of each point being the same as before. The fourth phenomenon is the motion or rest of the several

parts of the picture, according as those in the object are in either state. The reason of this is very obvious; and this it is what gives life and spirit to the painting and portraits of nature, and is the only particular inimitable by art. And, indeed, a more critical idea may be formed of any movement in the picture of a darkened room, than from observing the motion of the object itself: for instance, a man walking in a picture appears to have an undulating motion, or to rise up and down every step he takes; whereas nothing of this kind is observed in the man himself, as viewed by the bare eye. The fifth phenomenon is the colouring of the optic picture; every piece of imagery has its proper tints and colours, and those always heightened and rendered more intense than in the object; so that in this respect it is an improvement of nature itself, whereas the art of the greatest master can only pretend to a distant resemblance and faint imitation. The reason why the image is coloured is, because, the several points of the object reflecting several sorts of coloured rays to the glass, those rays will give a representation of those several parts respectively, and in their own colour, and therefore in those of the object; but those colours will be heightened, because they are crowded into a less space. The sixth phenomenon is the *claro obscuro*, as the Italians call it; that is, the intensity of light and shadow in the picture: and this as well as the colouring is greatly heightened, above what it is in the object, by reason of the lesser area of the picture. Here every light and every shade is expressed in its proper degree, from the most brilliant in the one to the most jetty black of the other, inclusive of a wonderful variety in the several parts, arising from the different situations of the several parts of the object, and the different angles of reflection. A just imitation of nature in the distribution of light and shadows is perhaps the most difficult part of the art of painting, and on which its greatest perfection depends. The seventh phenomenon is the optical perspective, or projection of the image, which is not in plano, or on a plane, as in common perspective, but on a surface described by the revolution of a conic section about its axis; therefore, though in general a plane surface is made use of, and may do very well in large representations, yet in smaller ones, as those of the portable Camera,

mera's, it is necessary to have the image or picture complete, or every-where well defined, that it be received upon the surface of an elliptic figure, and such as is suited to the middle distance of the objects. But this is a nicety which few will think worth regarding, who do not aim at a very great accuracy indeed in what they do.

We shall finish this subject with an observation that may be useful to persons concerned in drawing; and that is, that, if an object be placed just twice the focal distance from the glass without, the image will be formed at the same distance from the glass within the room, and consequently will be equal in magnitude to the object itself.

CAMERARIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which is a petal of a funnel-form, with a cylindraceous long tube, ventricose both at the base and the top, a plane limb divided into five lanceolated segments: the fruit is composed of two oblong follicles, bent horizontally, obtuse at both ends, and sending out a lobe on each side, near the base; they have one cell, with one valve, containing numerous, oval, and imbricated seeds, inserted in a large oval membrane, at the base.

CAMERATED, among builders, the same with vaulted or arched.

CAMERLINGO, according to Ducange, signified formerly the pope's or emperor's treasurer: at present, camerlingo is no where used, but at Rome, where it denotes the cardinal who governs the ecclesiastical state, and administers justice. It is the most eminent office at the court of Rome, because he is at the head of the treasury. During a vacation of the papal chair, the cardinal camerlingo publishes edicts, coins money, and exerts every other prerogative of a sovereign prince; he has under him a treasurer general, auditor general, and twelve prelates called clerks of the chamber.

CAMERON-CAPE, a promontory on the north part of the province of Honduras, in north America.

CAMERONIANS, a party of presbyterians, which sprung up in Scotland, in the reign of king Charles II. They affirmed that the king had forfeited his right to the crown, by breaking the solemn league and covenant, which were the terms on which he received it. They pretended both to dethrone and excom-

municate him; and broke out into an open rebellion. Upon the revolution, they were reconciled to the kirk, and their preachers submitted to the general assembly of the church of Scotland, in 1690.

CAMILLI, and **CAMILLÆ**, in roman antiquity, a certain number of boys and girls, who assisted in the sacrifices to the gods; but more especially attended the flamen dialis.

CAMINHA, a port-town of Portugal, situated at the mouth of the river Minho, about ten miles north of Viana; west lon. $9^{\circ} 20'$, and north lat. $41^{\circ} 50'$.

CAMIS, or **KAMIS**, in the japonese affairs, denote the deified souls of illustrious personages, believed to interest themselves in the welfare of their countrymen: in which sense they answer to the deified heroes of antiquity. See the article **HERO**.

CAMISADE, in the art of war, an attack by surprise in the night, or at the point of day, when the enemy is supposed asleep.

CAMMIN, a port-town of Brandenburg-Pomerania, in Germany, situated on the eastern mouth of the river Oder, about thirty miles north of Stetin; east longit. 15° , and north lat. 54° .

CAMOMILE, or **CHAMÆMILE**, *Chamæmilum*. See the article **CHAMÆMILE**.

CAMP, the ground upon which an army pitch their tents. It is marked out by the quarter-master-general, who appoints every regiment their ground.

The chief advantages to be minded in choosing a camp for an army, are to have it near the water, in a country of forage, where the soldiers may find wood for dressing their victuals; that it have a free communication with garrisons, and with a country from whence it may be supplied with provisions; and, if possible, that it be situated on a rising ground, in a dry gravelly soil. Besides, the advantages of the ground ought to be considered, as marshes, woods, rivers, and inclosures: and if the camp be near the enemy, with no river or marsh to cover it, the army ought to be intrenched. An army always encamps fronting the enemy; and generally in two lines, running parallel about five hundred yards distance; the horse and dragoons, on the wings, and the foot in the center: sometimes a body of two, three, or four brigades is encamped behind the two lines, and is called the body of reserve. The artillery and bread

waggon

waggons are generally encamped in the rear of the two lines. A battalion of foot is allowed eighty or an hundred paces for its camp; and thirty or forty for an interval betwixt one battalion and another. A squadron of horse is allowed thirty for its camp, and thirty for an interval, and more if the ground will allow it.

The disposition of the hebrew encampment was at first laid out by God himself: their camp was of a quadrangular form, surrounded with an inclosure of the height of ten hand's breadth. It made a square of twelve miles in compass, about the the tabernacle; and within this was another, called the levites camp. The Greeks had also their camps, fortified with gates and ditches. The Lacedæmonians made their camp of a round figure, looking upon that as the most perfect and defensible of any form: we are not, however, to imagine, that they thought this form so essential to a camp, as never to be dispensed with, when the circumstance of the place required it. Of the rest of the grecian camps, it may be observed, that the most valiant of the soldiers were placed at the extremities, the rest in the middle.

Thus we learn from Homer, that Achilles and Ajax were posted at the ends of the camp before Troy, as bulwarks on each side of the rest of the princes.

The camps of the Romans were generally of an exact square form, or else oblong; though this, without doubt, was often accommodated to the situation of the place. They were always fortified, and a very exact discipline maintained in them, in order to prevent surprizes from the enemy.

CAMP is also used, by the Siamese, and some other nations in the East-Indies, as the name of the quarters, which they assign to the foreigners who come to trade with them.

In these camps every nation forms, as it were, a particular town, where they carry on all their trade, not only keeping all their ware-houses and shops there, but also live in these camps with their whole families. The Europeans, however, are so far indulged, that at Siam, and almost every where else, they may live either in the cities or suburbs, as they shall judge most convenient.

Flying CAMP, the ground on which a flying army is encamped.

CAMP DISEASES are chiefly a bilious fever,

malignant fever, scurvy, fluxes, &c. See the articles FEVER and CAMPAIGN.

CAMP-HOSPITAL. See HOSPITAL.

CAMPAIGN, in the art of war, denotes the space of time that an army keeps the field, or is encamped, in opposition to quarters.

Concerning the healthiness of the different seasons of a campaign, the ingenious Dr. Pringle has the following observations: the first fortnight or three weeks is always sickly, after which the sickness decreases, and the men enjoy a tolerable state of health throughout the summer, unless they get wet cloaths. The most sickly part of the campaign is towards the end of August, whilst the days are still hot, but the nights cold and damp, with fogs and dews; then, if not sooner, the dysentery prevails: and though its violence is over by the beginning of October, yet the remitting fever gaining ground, continues throughout the rest of the campaign, and never entirely ceases, even in winter-quarters, till the frosts begin. He likewise observes, that the last fortnight of a campaign, if protracted till the beginning of November, is attended with more sickness than the two first months of the encampment; so that it is better to take the field a fortnight sooner, in order to return into winter-quarters so much the earlier.

As to winter-expeditions, though severe in appearance, he tells us, they are attended with little sickness, if the men have strong shoes, warm quarters, fuel, and provisions enough.

CAMPANIA, a city of the hither Principate, in the kingdom of Naples, situated about thirty-five miles south-east of the city of Naples; east long. $15^{\circ} 30'$, and north lat. $40^{\circ} 45'$.

CAMPANIA, or CAMPAGNA DI ROMA, a province of the pope's territories, in Italy, extending from the city of Rome south-east, as far as the frontiers of the kingdom of Naples.

CAMPANIFORM, or CAMPANULATED, an appellation given to flowers resembling a bell; a characteristic, whereon Tournefort establishes one of his classes of plants. See the article BOTANY.

Of campaniform flowers, we meet with four varieties. 1. The bell flower, properly so called. 2. The oblong or tubular bell-flower. 3. The bell-flower, expanded to a great width at the mouth, and consequently resembling a basin.

4. The globular, or roundish bell-flower; the mouth of which is narrower than its belly.

CAMPANOLOGIA, the art or science of ringing bells.

An anonymous author has published a *campanologia* improved, or the art of ringing made easy, by plain and methodical rules, and directions for ringing all manner of double, triple, or quadruple changes, with variety of new peals upon 5, 6, 7, 8, and 9 bells; as also the method for calling bobs for any peal of triples from 168 to 2500; (being the half peal) also for any peal of quadruples or caters, from 324 to 11340.

CAMPANULA, BELL-FLOWER, in botany, a genus of the pentandria-monogynia class of plants; the flower of which consists of a campanulated single petal; the base, broad and impervious; the limb lightly divided into five broad, acute, and patulous segments. The nectarium is situated in the bottom of the corolla, and is formed of five acute connivent valves. The fruit is an angulated roundish capsule, with three or five cells, and having so many foramina in the sides, for letting out the seeds. The seeds are numerous and small, and the receptacle fixed and columnar.

CAMPBELL-TOWN, a parliament-town of Argyleshire, in Scotland, situated on the eastern coast of Cantire, about ten miles west of the island of Arran; west longitude $5^{\circ} 10'$, and north lat. $55^{\circ} 35'$.

CAMPDEN, a market-town in Gloucestershire, about eighteen miles north-east of Gloucester; west longitude $1^{\circ} 50'$, and north latitude 52° .

CAMPEACHY, or **CAMPECHY**, a town of the province of Yucatan, on the bay or gulph of Mexico; west longitude 93° , north latitude 19° .

CAMPEACHY-WOOD, *campecia*, in botany, the same with the *hæmatoxyllum* of Linæus; otherwise called log-wood.

It is brought to us in large and thick blocks or logs, and is the heart only of the tree which produces it. It is very heavy, and remarkably hard. It is not easily cut, but it splits pretty readily in a longitudinal direction.

Campeachy-wood must be chosen in large and thick pieces, sound, and of a deep-red colour. It has been long known among the dyers; but it is only of late, that it has been introduced into medicine. It is found to be an excellent astringent, and

is given, in form of an extract, in diarrhoeas, with very great success.

CAMPEN, a port-town, in the province of Overysse, in the united Netherlands, near the mouth of the river Issel, about forty-two miles north-east of Amsterdam; east longitude $5^{\circ} 40'$, and north latitude $52^{\circ} 35'$.

CAMPHOR, or **CAMPHIRE**, in the materia medica, a vegetable substance, of a particular nature, being neither a resin, nor a volatile salt, nor an oil, nor a juice, nor a bitumen, nor a gum, but a mixed body dry, white, transparent, and brittle, of a strong and penetrating smell. The Indians distinguish two kinds of it, a finer and a coarser; the finer is the produce of Borneo and Sumatra, is very rare, and never is sent into Europe; the coarser is the japonese kind, which is the common sort, both in the Indies and in Europe.

The camphor, which we meet with in the shops, is also of two kinds, differing in regard to the degree of their purity, and distinguished by the name of rough and refined camphor.

The tree, which produces camphor, is a species of bay-tree, every part of which abounds with camphor; but it is not collected from it in the manner of other resins, but by a sort of chemical process. The natives of the places, where the trees grow, cut the wood and roots into small pieces, and put them into large copper vessels, which they cover with earthen heads, filled with straw; they give a moderate fire under them, and the camphor is raised in form of a white downy matter, and retained among the straw; when the process is over, they shake it out of the straw, and knead it into cakes. These cakes are not very compact, but easily crumble to pieces; they are moderately heavy, of a greyish or dusky reddish white in colour, of a pungent smell, and acrid taste, and are what we call rough camphor.

Refined camphor must be chosen of a perfectly clean white colour, very bright and pellucid, of the same smell and taste with the rough, but more acrid and pungent.

It is so volatile, that merchants usually inclose it in lin-seed, that the viscosity of that grain may keep its particles together. It has various uses, as in fire-works, varnish, &c. but its principal use is in medicine. There have been great disputes among

among physicians on the subject of its virtues : some have declared it to be cold, others hot ; they argue for its being cold, from its abating venery, and being good against inflammations of the eyes ; and those, who account it hot, produce, in their favour, its acrid taste, fragrant smell, its inflammability, and the great subtilty and volatility of its parts. At present, it is much used in medicine, both internally and externally. In cases, both of the recent and inveterate lues venerea, this medicine, skilfully prepared and applied, has been recommended to be used instead of the common sudorific decoction of the woods. It may also be advantageously mixed along with the balsams, or fine turpentine, commonly used at the close of that distemper. Some physicians have recommended it in all inflammatory, putrid, pestilential, and even maniacal diseases. It also promotes the menses and urine, and is good in ulcerations of the kidneys and bladder.

Camphor may probably be extracted from all plants, which abound with an essential oil ; yet it would differ with regard to the smell, always retaining that of the tree from which it is extracted. The reader may see, in the philosophical transactions, how Mr. Neuman, a chemist of Berlin, extracted camphor from thyme.

Artificial CAMPHOR is prepared with gum sandarach, and white vinegar distilled, kept twenty days in horse-dung, and afterwards exposed a month to the sun to dry, at the end of which, the camphor is found in form of the crust of a white loaf. This is also called juniper-gum, and mastic.

CAMPHOR TREE, *camphora*, the tree from which the camphor of the shops is prepared, being a species of laurel. See the article *LAURUS*.

CAMPHORATED, in pharmacy, something impregnated with the virtues of camphor. See the article *CAMPHOR*.

CAMPHORATED JULEP. See *JULEP*.

CAMPHOROSMA, in botany, a genus of the tetrandria-monogynia class of plants, the calyx of which is a permanent perianthium of one tubulated leaf : there is no corolla : the pericarpium is a capsule of one cell, open at top, and covered with the cup ; the seed is single, oval, compressed, and shining.

CAMPION, in botany, a name sometimes used for the lychnis. See *LYCHNIS*.

CAMPO-MAJOR, a town of Alentejo, in Portugal, about ten miles north of Elvas,

and eleven north-west of Badajoz ; west long. $7^{\circ} 25'$, and north lat. $38^{\circ} 45'$.

CAMPREDON, a town of Catalonia, in Spain, about fifty miles north of Barcelona ; east longitude 2° , and north latitude $42^{\circ} 20'$.

CAMPUS, in antiquity, a space of ground in cities, left without any buildings, not unlike what we call fields or squares.

CAMPUS MAIR, in antient customs, an anniversary assembly of our ancestors, held on May-day, when they confederated together for defence of the kingdom against all its enemies.

CAMPUS MARTIUS, among the Romans, a field, by the side of the Tyber, where the youth exercised themselves in warlike exercises. It was so called, on account of a temple that stood on it, consecrated to the god Mars. The consuls, Brutus and Collatinus made it the place for holding the comitia or assemblies of people, and, in after times, it was adorned with a great quantity of fine statues.

CAMUS, a person with a low flat nose, hollowed in the middle.

The Tartars are great admirers of *camus* beauties. Rubruquis observes, that the wife of the great Jenghis Kan, a celebrated beauty, had only two holes for a nose.

CANADA, an extensive tract of North-America, bounded by New Britain, and Hudson's bay, on the north ; by the river of St. Lawrence, the Iroquois, or five indian nations, the Huron and Illinois lakes, on the east and south ; and by unknown lands, on the west.

Its chief town is Quebec.

CANAL, *canals*, in hydrography, a kind of artificial river, made for the convenience of water-carriage. See *SLUICE*.

The Dutch, or if we can believe the relations of travellers, the Chinese, who inhabit a country vastly more extensive than that of the Dutch, have shewn the great advantages resulting from canals to a trading people. The antients often took great pains to make a communication, by water, from one place to another. Several of the kings of Egypt have endeavoured to join the Red-sea with the Mediterranean, by a canal opened from the Red-sea to one of the arms of the Nile, which discharges itself into the Mediterranean ; and the turkish Solyman II. employed 150,000 men upon this business to no purpose.

There are several large canals in France ; that of Briare, begun under Henry IV. and finished under Lewis XIII. establishes

a communication between the Loire and the Seine by the Loing. There are forty-two sluices upon it. But the greatest and most wonderful work of that kind, and at the same time one of the most useful, is, the junction of the two seas, by the canal of Languedoc, proposed under Francis I. but not finished till the time of Lewis XIV.

CANAL, in anatomy, a duct or passage through which any of the juices flow. As 1. the semicircular canals, distinguished by the epithets of the largest, the middle one, and the least, in the labyrinth of the ear, opening by five orifices in the vestibule. 2. The canals of the auditory nerve, *viz.* the common and larger, in which there are little apertures into the labyrinth, and the proper, narrower, and longer terminating partly, by a little aperture, in the cavity of the cranium, and partly in the aquæduct of Fallopius. 3. The canalis arteriosus, between the pulmonary artery and the aorta of a foetus, which serves for a peculiar circulation in the foetus. 4. The nasal canal. 5. The canalis semilunaris. And, 6. The canalis venosus. See the articles **FOETUS**, **NOSE**, &c.

CANAL of the *larmier*, the hollowed platform or soffita of a cornice, which makes the pendent mouchette. See the articles **LARMIER**, and **SOFFITA**.

CANAL, of the *volute*, in the ionic capital, the face of the circumvolutions inclosed by a listel.

CANALICULATE, or **CANALICULATED**, something hollowed in the manner of a canal; thus, we say, a canaliculated leaf, a canaliculated stalk.

CANARIES, islands, to the number of seven, situated in the atlantic ocean, between 12° 21' of west longitude, and between 27° and 29° north latitude; the most easterly of them lying about one hundred and fifty miles from cape Non on the coast of Biledulgerid, in Africa.

CANARY, properly so called, is a considerable island, about one hundred and fifty miles in circumference; the chief town of which is Palma, from whence comes the excellent palma-sack, and other rich wines.

It lies in 16° west longitude, and between 27° and 28° north latitude.

CANARY-BIRD, *passer canariensis*, the english name of the whitish fringilla, with the wings and tail greenish.

Canary-birds are natives of the canary-islands, whence they have got their name; but the melody of their voice is so sweet,

that there are few nations in Europe, which do not keep them in cages, where they very readily breed. See plate XXXVI. fig. 1.

CANCER, the **CRAB**, in zoology, the name of one of the divisions of *Squillæ*, comprehending all those with short-tails. See the article **SQUILLA**.

Crabs are a well-known shell-fish, of which there are a great many species; as the common large crab, the spider crab, the molucca-crab or king-crab, the little wooly crab, the prickly long armed-crab, &c. See plate XXXV. fig. 5. where n° 1 represents the common great crab, and n° 2, the spider-crab.

CANCER, in medicine, a roundish, unequal, hard, and livid tumour, generally seated in the glandulous parts of the body, supposed to be so called, because it appears at length, with turgid veins shooting out from it, so as to resemble, as it is thought, the figure of a crab-fish; or, as others say, because, like that fish, where it has once got, it is scarce possible to drive it away.

Cancerous, or schirrous tumours, often appear spontaneously, without any evident cause, and seem peculiar to certain constitutions; at other times, they may be accidental, or proceed from sharp, corrosive, or other coagulating juices in the body, errors in the non-naturals, a stoppage in the necessary evacuations, contusion, stagnation, or coagulation of milk in the breasts, &c.

The cancer is allowed to be the most terrible evil that befalls the body; it is usually cured, while yet a small tumour of the bigness of a nut, or, at most, a small egg, by extirpation. When it seizes the breast, or is burst into an ulcer, amputation takes place. It begins without any pain, and appears, at first, like a chicory-pea, but grows apace, and becomes very painful. The tumour arises generally on the lax, glandulous parts, as the breasts and emunctories: the reason of its appearing in the breasts, more than in other parts, is their being full of glands, with lymphatics and blood-vessels among them: the smallest contusion, compression, or puncture extravasates those liquors, which grow, by degrees, acrimonious from the cancer.

The cancer is found in other soft spongy parts of the body; and there have been some found in the gums, belly, neck of the matrix, ureters, lips, nose, cheeks, abdomen, penis, thighs, &c.

A cancer, arising on the leg, is called a *lupus*;

lupus; on the face and nose, a *noli me tangere*.

Cancers are divided, according to their several stages, into occult and open or ulcerated. Occult cancers are those not arrived at their state, or not yet burst: ulcerated cancers are known by their roughness and fullness of holes, through which oozes a filthy, stinking, glutinous matter, frequently yellowish; by their pungent, pains, which resembles the pricking of pins; by their blackness; the swelling of the lips of the ulcer, and the veins about it, which are black, tumid, and varicose: in a cancer of the breast, the adjacent flesh is sometimes so consumed, that one may see the cavity of the thorax; it occasions a slow fever, a loathing, oftentimes a faintness, sometimes a dropsy, and lastly death. Some cancerous tumours are moveable, others fixed; some inflamed, others pallid. In their beginning, they are sometimes no bigger than a pea, but frequently increase gradually to the size of a wall-nut, egg, &c. sometimes also their growth is sudden, and at others slow, so as to continue on the increase many years together.

All cancers are dangerous, and seldom give way to the use of evacuating medicines: they also prove more difficult to cure, according to their size, the nature and office of the part they affect, the age of the patient, &c. Some occult cancers, particularly those which happen in the breasts of women, may remain harmless to the body for several years, and without ulcerating; though, upon any external injury, they may afterwards increase, break, and soon prove mortal. In this case, every thing, that soon raises the velocity of the blood, should be carefully avoided. It is pretty much the present fashion, not to meddle with the cure of cancers, whilst occult; but only endeavour to keep them sweet, by the common dressings, when they are ulcerated. Others, however, treat them in the manner following:

If the patient, afflicted with a small, recent, and occult cancer, be at all plethoric, they generally order phlebotomy; afterwards, if there be any hopes of palliating the case, lenient purgatives to be repeated occasionally: issues also have their use, and may contribute to prevent the farther growth of a recent cancer; a due regimen being carefully observed, whilst they are running.

Sometimes a cancer happens in the eye.

This case, if it degenerates into an ulcer, is extremely dangerous, and the cure very uncertain, especially if it seems to happen spontaneously, is of long standing, or the patient in years: if the tumour is recent, it may be attempted to be discussed; but if it increases, so as to endanger the life of the patient, it must either be consumed with caustics, or, if possible, totally extirpated. When the whole ball of the eye is grown cancerous, it has been entirely taken out of its cavity, without preventing the disorder from being mortal.

CANCER, in astronomy, one of the twelve signs of the Zodiac, represented on the globe in the form of a crab, and thus marked (♋) in books.

Ptolemy makes it contain only thirteen stars, Tycho Brahe fifteen, Bayer and Hevelius twenty-nine, and Flamsteed no less than seventy-one.

It is the fourth sign, reckoning from aries, and gives name to one of the quadrants of the ecliptic.

Tropic of CANCER, in astronomy, a lesser circle of the sphere parallel to the equator, and passing through the beginning of the sign cancer.

CANCHERIZANTE, or **CANCHERIZATO**, in the italian music, a term signifying a piece of music that begins at the end, being the retrograde motion from the end of a song, &c. to the beginning.

CANDAHOR, the capital of a territory of the same name, subject to Persia: east longitude 67°, and north latitude 33°.

CANDIA, the modern name of Crete, an island situated in the Mediterranean sea, between 22° and 27° east longitude, and between 35° and 36° north latitude.

There is no river of any consequence in the whole island, which is watered by a multitude of rivulets; whereof Lethe is one. Here too is mount Ida, so much celebrated in the writings of the ancients.

CANDIA or **MUTIUM**, is the capital of the above island, situated on its northern coast, in 25° east longitude, and 35° 30' north latitude.

CANDIDATE, a person who aspires to some public office.

In the roman commonwealth, they were obliged to wear a white gown, during the two years of their soliciting for a place. This garment, according to Plutarch, they wore without any other cloaths, that the people might not suspect they concealed money for purchasing

votes; and also, that they might the more easily show to the people, the scars of those wounds they had received in fighting for the defence of the commonwealth.

CANDIDATI MILITES, an order of soldiers, among the Romans, who served as the emperor's body-guards, to defend him in battle. They were the tallest and the strongest of the whole troops, and most proper to inspire terror. They were called *candidati*, because clothed in white, either that they might be more conspicuous, or because they were considered in the way of preferment.

CANDISH, a province of the hither India, bounded by Chitor and Malva, on the north; by Orixá, on the east; by Decan, on the south; and by Guzurat, on the west: it is subject to the mogul.

CANDLE, a small taper of tallow, wax, or sperma ceti; the wick of which is commonly of several threads of cotton, spun and twisted together.

A tallow-candle, to be good, must be half sheeps, and half bullocks tallow, for hogs tallow makes the candle gutter, and always gives an offensive smell, with a thick black smoke. The wick ought to be pure, sufficiently dry, and properly twisted, otherwise the candle will emit an unconstant vibratory flame, which is both prejudicial to the eyes, and insufficient for the distinct illumination of objects.

There are two sorts of tallow-candles; the one dipped, the other moulded: the former are the common candles; the others are the invention of the *seigneur de Brege*, at Paris.

As to the method of making candles, in general; after the tallow has been weighed, and mixed in the due proportions, it is cut into very small pieces, that it may melt the sooner; for the tallow in lumps, as it comes from the butchers would be in danger of burning or turning black, if it were left too long over the fire. Being perfectly melted and skimmed, they pour a certain quantity of water into it, proportionable to the quantity of tallow. This serves to precipitate, to the bottom of the vessel, the impurities of the tallow, which may have escaped the skimmer. No water, however, must be thrown into the tallow, designed for the three first dips, because the wick, being still quite dry, would imbibes the water, which makes the candles crackle in burning, and renders

them of bad use. The tallow, thus melted, is poured into a tub, through a coarse sieve of horse-hair, to purify it still more, and may be used after having stood three hours. It will continue fit for use twenty-four hours in summer, and fifteen in winter.

The wicks are made of spun cotton, which the tallow-chandlers buy in skins, and which they wind up into bottoms or clues. Whence they are cut out, with an instrument contrived on purpose, into pieces of the length of the candle required; then put on the stick or broches, or else placed in the moulds, as the candles are intended to be either dipped or moulded. Wax candles are made of a cotton or flaxen wick, slightly twisted, and covered with white or yellow wax. Of these, there are several kinds; some of a conical figure, used to illumine churches, and in processions, funeral ceremonies, &c. See the article *TAPER*.

Others of a cylindrical form, used on ordinary occasions.

The first are either made with a ladle or the hand.

To make wax-candles with the ladle. The wicks being prepared, a dozen of them are tied by the neck, at equal distances, round an iron circle, suspended directly over a large basin of copper tinned, and full of melted wax: a large ladle full of this wax is poured gently on the tops of the wicks one after another, and this operation continued till the candle arrive at its destined bigness, with this precaution, that the three first ladles be poured on at the top of the wick; the fourth at the height of $\frac{2}{3}$; the fifth at $\frac{1}{2}$; and the sixth at $\frac{1}{3}$; in order to give the candle its pyramidal form. Then the candles are taken down, kept warm, and rolled and smoothed upon a walnut-tree table, with a long square instrument of box, smooth at the bottom.

As to the manner of making wax-candles by the hand, they begin to soften the wax, by working it several times in hot water, contained in a narrow, but deep caldron. A piece of the wax is then taken out, and disposed by little and little, around the wick, which is hung on a hook in the wall, by the extremity opposite to the neck; so that they begin with the big end, diminishing still as they descend towards the neck. In other respects, the method is nearly the same as in the former case. However, it must be observed, that in the former case, water is always used to moisten

Ren the several instruments, to prevent the wax from sticking ; and in the latter, oil of olives, or lard, for the hands, &c. The cylindrical wax-candles are either made, as the former, with a ladle, or drawn. Wax-candles drawn, are so called, because actually drawn in the manner of wire, by means of two large rollers of wood, turned by a handle, which turning backwards and forwards several times, pass the wick through melted wax contained in a brass basin, and at the same time through the holes of an instrument like that used for drawing wire fastened at one side of the basin.

Makers of candles are not to use melting houses, without due entry thereof at the excise-office, on pain of 100 l. And to give notice of making candles to the excise-officer for the duties, and of the number, &c. or shall forfeit 50 l. Removing the candles before weighed by the officer, or mixing them with others, is likewise liable to penalties.

CANDLE is also a term in medicine, and is reckoned among the instruments of surgery. Thus the *candela fumalis*, or the *candela pro suffitu odorata*, is a mass of an oblong form, consisting of odoriferous powders, mixed up with a third, or more, of the charcoal of willow, or lime-tree, and reduced to a proper consistence with a mucilage of gum-tragacanth, ladanum, or turpentine. It is intended to excite a grateful smell without any flame, to correct the air, to fortify the brain, and to excite the spirits.

Medicated CANDLE, or *BOUGIE*, in surgery, a small stick of wax in form of a candle, which surgeons introduce into the urethra, either to dilate it and keep it open, or to consume carnosities. There are two sorts of these candles, the one simple, and the other compound. The simple are made of wax, of cat-gut, or even of lead ; and the intention of them is to keep the canal of the urethra properly distended. Their thickness, therefore, should be proportioned to the diameter of that canal. The compound bougies are loaded with some medicine capable of producing a suppuration, or of destroying carnosities and excrescences in the urethra.

CANDLE. Sale or auction by inch of candle, is when a small piece of candle being lighted, the bystanders are allowed to bid for the merchandize that is selling ; but the moment the candle is out,

the commodity is adjudged to the last bidder.

There is also an excommunication by inch of candle, when the sinner is allowed to come to repentance while a lighted candle continues burning ; but after it is consumed, he remains excommunicated to all intents and purposes.

CANDLE-BERRY-TREE, in botany, the english name of a species of *myrica*, called also the virginian myrtle, as being common in that country.

From the berries of this tree, a green kind of wax is drawn by boiling, whereof they make candles ; and hence is derived the name candle-berry-tree.

CANDLEMAS, a feast of the church, held on the second day of February, in honour of the purification of the virgin Mary. It is borrowed from the practice of the antient christians, who on that day used abundance of lights both in their churches and processions, in memory, as is supposed, of our Saviour's being on that day, declared by Simeon, " to be a light to lighten the Gentiles." In imitation of this custom, the roman catholics, on this day, consecrate all the tapers and candles which they use in their churches during the whole year. At Rome, the pope performs that ceremony himself, and distributes wax-candles to the cardinals and others, who carry them in procession thro' the great hall of the pope's palace. This ceremony was prohibited in England, by an order of council in 1548.

CANDLESTICK, an instrument to hold a candle, made in different forms, and of all sorts of matter.

The golden candlestick was one of the sacred utensils made by Moses to be placed in the jewish tabernacle. It was made of hammered gold, a talent in weight. It consisted of seven branches, supported by a base or foot. These branches were adorned at equal distances with six flowers like lilies, and with as many bowls and knobs placed alternately. Upon the stock and six branches of the candlestick, were the golden lamps, which were immoveable, wherein were put oil and cotton.

These seven lamps were lighted every evening, and extinguished every morning. The lamps had their tongs or snuffers to draw the cotton in or out, and dishes underneath them to receive the sparks and droppings of the oil. This candlestick was placed in the antichamber

of

of the sanctuary, on the south side, and served to illuminate the altar of perfume, and the table of the shew-bread. When Solomon had built the temple of the Lord, he placed in it ten golden candlesticks, of the same form as that described by Moses, five on the north, and five on the south side of the sanctuary. But after the babylonish captivity, the golden candlestick was again placed in the temple, as it had been before in the tabernacle by Moses. This sacred utensil, upon the destruction of the temple by the Romans, was lodged in the temple of peace, built by Vespasian; and the representation of it is still to be seen on the triumphal arch at the foot of mount Palatine, on which Vespasian's triumph is delineated.

Water CANDLESTICK, a kind of fountain, the spout of which is raised upon a pedestal in form of a large balustrade, which carries a small basin like a table or stand, from which the water falls into a larger basin, level with the alleys in a garden.

CANDY, in geography, the capital of the island of Ceylon, situated in the middle of the island; east lon. 79° , north lat. 8° .

CANDY, or *sugar-CANDY*, a preparation of sugar, made by melting and crystallizing it six or seven times over, to render it hard and transparent. It is of three kinds, white, yellow, and red. The white comes from the loaf-sugar, the yellow from the cassonado, and the red from the muscovado. See **SUGAR**.

Sugar-candy is most proper in colds, because it melts slowly, and thereby gives time to the saliva to mix with it, and thus to blunt the acrimony of the phlegm.

CANDYING, in pharmacy, the art of preserving simples in substance, by boiling them in sugar.

The performance of this originally belonged to the apothecaries, but is now become a part of the business of a confectioner.

CANE, *arundo*, in botany. See the article **ARUNDO**.

CANE denotes also a walking-stick. It is customary to adorn it with a head of gold, silver, agate, &c. Some are without knots, and very smooth and even; others are full of knots, about two inches distant from each other. These last have very little elasticity, and will not bend so well as the others.

Canes of Bengal, are the most beautiful which the Europeans bring into Europe,

Some of them are so fine, that people work them into vessels or bowls, which being varnished over in the inside with black or yellow lacca, will hold liquors as well as glass or china-ware does, and the Indians use them for that purpose.

CANE, *canna*, is also the name of a long measure, which differs according to the several countries where it is used.

At Naples, the cane is equal to 7 feet $3\frac{1}{2}$ inches english measure: the cane of Tholouse, and the upper Languedoc, is equal to the varre of Arragon, and contains 5 feet $8\frac{2}{3}$ inches: at Montpellier, Provence, Dauphiné, and the lower Languedoc, to 6 english feet $5\frac{1}{2}$ inches.

CANEA, a sea-port town on the north side of Candia, esteemed the second on the island. It is a pretty good harbour, but the fortifications are out of repair: east longitude 24° , north latitude $35^{\circ} 36'$.

CANEPHORÆ, in grecian antiquity, virgins who when they became marriageable, presented certain baskets full of little curiosities to Diana, in order to get leave to depart out of her train, and change their state of life. See the next article.

CANEPHORIA, in grecian antiquity, a ceremony which made part of a feast celebrated by the athenian virgins, on the eve of their marriage day. See the last article.

At Athens, the canephoria consisted in this: the maid, conducted by her father and mother, went to the temple of Minerva, carrying with her a basket full of presents, to engage the goddess to make the marriage state happy; or, as the scholiast of Theocritus has it, the basket was intended as a kind of honourable amends made to that goddess, the protectrix of virginity, for abandoning her party; or a ceremony to appease her wrath. Suidas calls it a festival in honour of Diana. See **CANEPHORÆ**.

CANEPHORIA is also the name of a festival of Bacchus, celebrated particularly by the Athenians, on which the young maids carried golden baskets full of fruit; which baskets were covered, to conceal the mystery from the uninitiated.

CANETO, a fortified town of the dutchy of Mantua, situated on the Oglio, about twelve miles south-west of Mantua; east longitude $10^{\circ} 50'$, north latitude 45° .

CANICULA, or **CANICULUS**, in astronomy, the same as the *canis minor*. See the article **CANIS MINOR**.

It is also a name given to one of the stars of the constellation canis major, called the dog-star, and by the Greeks, sirius.

CANICULAR DAYS, commonly called dog-days, a certain number of days preceding and ensuing the heliacal rising of the canicula, or the dog-star, in the morning. The Ethiopians and Egyptians began their year at the rising of the dog-star, reckoning to its rise again the next year, which is called the annus canarius. The Romans supposed it to be the cause of the sultry weather usually felt in the dog-days; and therefore sacrificed a brown dog every year at its rising, to appease its wrath.

The dog-days begin towards the end of July, and end the beginning of September.

CANINE, whatever partakes of, or has any relation with the nature of a dog. Thus,

CANINE-TEETH, in anatomy, are two sharp-edged teeth in each jaw; one on each side, placed between the incisores and molares. See the article **TOOTH**.

CANINE MUSCLES, a pair of muscles common to both lips. They arise from the hollow on each side under the os jugalis, in the os maxillare, and are inserted into the angle of the lips.

CANINE APPETITE. See **BULIMY**.

CANIS, DOG, in zoology, the name of a comprehensive genus of quadrupeds, of the order of the feræ.

They are distinguished from the other genera of this order, by the number of their teats or paps, which in the dog-kind are ten, four on the breast, and six on the belly: add to this, that their feet are adapted to running; they have five toes on the forefeet, and four on the hinder.

Under this genus are comprehended,

1. The common dog, or canis with a crooked tail, bending backwards. 2. The wolf, or canis with a straight tail, shorter than his body. 3. The fox, or canis with a straight tail, equal in length to his body. 4. The hyæna, or lupus marinus, with the hair of its neck erect, and considerably long. See **DOG**, &c.

CANIS MAJOR, in astronomy, a constellation of the northern hemisphere, consisting of eighteen stars, according to Ptolemy; of thirteen, according to Tycho; and thirty-two in the britannic catalogue.

CANIS MINOR, **CANICULUS**, or **CANICULA**, in astronomy, a constellation of the northern hemisphere. In Ptolemy's catalogue, the canis minor comprehends two stars; in that of Tycho, five; and in the britannic catalogue, fifteen.

CANKER, a speck made by a sharp humour, which gnaws the flesh almost like a caustic; very common in the mouths of children.

CANKER, a disease incident to trees, proceeding chiefly from the nature of the soil. It makes the bark rot and fall. If the canker be in a bough, cut it off; a large bough should be cut off at some distance from the tree; and a small one close to it: but for over-hot strong ground, the mould is to be cooled about the roots with pond-mud, and cow-dung.

CANNA, in botany, a genus of plants of the monandria-monogynia class, the flower of which is monopetalous, and divided into six parts. The laciniae are lanceolated, cohering at the bases, of which the three exterior ones are erect; the three interior ones are longer than these, and two of them are erect, and one reflex. The fruit is a roundish, scabrous, coronated, trifid capsule, with three cells and three valves, containing some globose seeds. See **CANNACORUS**.

CANNABIS, **HEMP**, in botany, a genus of the dioecia-pentandria class of plants. There is no corolla, but the calyx of the male flower is divided into five parts; and that of the female, is composed of a single leaf, acuminate and opening sideways. The pericarpium is very small, and the seed is a globose, depressed, bivalvular nut.

CANNACORUS, in botany, the name used by Tournefort for the canna of Linnæus. See plate XXXVI, fig. 2.

CANNEL-COAL, in the materia medica, a substance which has a long time, tho' with very little reason, been confounded, both by authors and druggists, with jet. It is dug up in many parts of England in great abundance, particularly in Lancashire, where it is burnt as common fuel. It is worked into toys and utensils of various kinds, under the name of jet. In medicine, it has the credit of being good in the colic, and of being, in general, an emollient and discutient: but the present practice takes no notice of it.

CANNIBAL, or **CANIBAL**. is used by modern writers for an anthropophagus, or man-eater, more especially of the West-Indies. See **ANTHROPOPHAGY**.

CANNON, in the military art, an engine or fire-arm for throwing iron, lead, or stone bullets by force of gun-powder. Cannons at first were called bombardæ, from the noise they made. They had likewise the name of culverin, basilisk,

&c.

&c. from the beasts that were represented upon them; and the Spaniards, from devotion, gave them the name of saints; witness the twelve apostles which Charles V. ordered to be cast at Malaga, for his expedition to Tunis.

The most remarkable parts about a cannon, are the cascabel, mouldings, basering, touch-hole, vent-ring, reinforced-ring, trunions, dolphins, trunion-ring, cornish-ring, neck, muzzle, face, and chase or cylinder. See each of these in its proper place.

The metal of which cannons are composed, is either iron, or which is more usual, a mixture of copper, tin, and brass; the tin being added to the copper, to make the metal more dense and compact; so that the better and heavier the copper is, the less tin is required. Some to an hundred pounds of copper, add ten of tin, and eight of brass; others ten of tin, five of brass, and ten of lead. The sieur Bereau pretends, that when old pieces of metal are used, the founder ought to add to one hundred weight of that metal, twenty-five pounds of good copper, and five pounds of tin. Braudius describes a method of making cannon of leather, and it is certain the Swedes made use of such in the long war in the last century; but these burst too easily to have much effect. With regard to iron cannon, they are not capable of so much resistance as those of brass; but as they are less expensive, they are often used on board of ships, and also in several fortified places.

For the method of casting cannon, see the article **FOUNDRY**.

Cannons are distinguished by the diameters of the balls they carry. The rule for their length is, that it be such as that the whole charge of powder be on fire, before the ball quit the piece. If it be too long, the quantity of air to be drawn out before the ball, will give too much resistance to the impulse; and that impulse ceasing, the friction of the ball against the surface of the piece, will take off from the motion.

In former days, cannon were made much longer than they are now; but experience has taught us, that a ball moves with a greater impetus thro' a less space than a greater; and accordingly it is found, that an iron ball of 48 pounds weight, goes farther from a short cannon, than another ball of 96 pound out of a longer piece; whereas, in other respects, it is certain, the larger the bore and ball, the greater the range. But for the range of a cannon. See the article **PROJECTILE**.

It is found too, by experience, that of two cannons of equal bore, but different lengths, the longer requires a greater charge of powder than the shorter. The ordinary charge of a cannon is, for the weight of its gun-powder to be half that of its ball.

We shall here subjoin a table exhibiting the names of the several cannon, their length, their weight, and that of their ball, as they obtain among us.

| Names of cannon. | wt. of an iron ball. | weight of the cannon. | length of the cannon. |
|------------------------|----------------------------|-----------------------------|-----------------------------|
| | lb. oz. | lb. | f. inch. |
| Cannon royal. | 48 0 | 8000 | 12 0 |
| Demi cannon large | 36 0 | 6000 | 12 0 |
| Demi cannon ordinary | 32 0 | 5600 | 12 0 |
| Demi cannon least | 30 0 | 5400 | 11 0 |
| Culverin largest | 20 0 | 4800 | 12 0 |
| Culverin ordinary | 17 5 | 4500 | 12 0 |
| Culverin least | 15 0 | 4000 | 11 0 |
| Demi culverin ordinary | 10 11 | 2700 | 11 0 |
| Demi culverin least | 9 0 | 2000 | 10 0 |
| Saker ordinary | 6 0 | 1500 | 10 0 |
| Saker least | 4 12 | 1400 | 8 0 |
| Minion largest | 3 12 | 1000 | 8 0 |
| Minion ordinary | 3 4 | 800 | 7 0 |
| Falcon | 2 8 | 750 | 6 0 |
| Falconet | 1 5 | 400 | 5 6 |
| Rabinet | 0 8 | 300 | 5 6 |
| Base | 0 5 | 200 | 4 6 |

Cannons are likewise distinguished according to the diameter of their mouth, or calibre. This calibre is divided, in consequence of an order from the king of France, into thirty-six parts, in order to determine by these parts the dimensions of the different moulds for cannon. We

hope the reader, then, will not be dissatisfied to find an account of the dimensions of the several parts of cannon of five different calibres, as they are regulated by that order of the king of France, on Oct. 7, 1732, in the following table :

| Pieces of cannon | of 24 | | | of 16 | | | of 12 | | | of 8 | | | of 4 | | |
|------------------------------|-------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|--------|----------|-------|--------|
| | feet. | inch. | lines. | feet. | inch. | lines. | feet. | inch. | lines. | feet. | inch. | lines. | feet. | inch. | lines. |
| Length of the bore | 9 | 6 | | 9 | 2 | | 8 | 8 | | 7 | 10 | | 6 | 6 | |
| Depth of the chamber | 2 | 6 | | 1 | 10 | | | | | | | | | | |
| Thickness of metal at breech | 5 | 5 | | 4 | 9 | | 4 | 4 | | 3 | 9 | | 3 | | |
| Length of the cascabel | 10 | 11 | | 9 | 6 | | 8 | 8 | | 7 | 7 | | 6 | | |
| Diameter of the trunions | 5 | 5 | | 4 | 9 | | 4 | 4 | | 3 | 10 | | 3 | | |
| Projection of the trunions | 5 | 5 | | 4 | 9 | | 4 | 4 | | 3 | 10 | | 3 | | |
| Calibre of the piece | 5 | 8 | | 4 | 11 | | 4 | 6 | | 3 | 11 | | 3 | 2 | |
| Diameter of the ball | 5 | 6 | | 4 | 9 | | 4 | 4 | | 3 | 9 | | 3 | | |
| Length of the whole piece | 11 | | | 10 | 6 | | 10 | | | 8 | 10 | | 7 | 3 | |
| Weight of the piece | 5400 | | | 4200 | | | 3200 | | | 2100 | | | 1150 lb. | | |

CANNON, with letter-founders and printers, the largest size of the letters they use. See the article **LETTER**.

CANNONEER, or **CANNONIER**, the same with gunner. See the articles **GUNNER** and **GUNNERY**.

CANNOV, **CANOW**, or **CANOE**. See the article **CANOE**.

CANNULA, in surgery, a tube made of different metals, principally of silver and lead, but sometimes of iron.

They are introduced into hollow ulcers, in order to facilitate a discharge of pus or any other substance; or into wounds, either accidental or artificial, of the large cavities, as the thorax or abdomen: they are used in the operation of bronchotomy, and by some after cutting for the stone, as a drain for the urine.

Other cannulas are used for introducing cauteries, either actual or potential, in hollow parts, in order to guard the parts adjacent to that to be cauterised, from injury. They are of various figures; some being oval, some round, and others crooked.

CANOBA, a town of the dutchy of Milan, situated on the west side of the lake Maggiore, about thirty miles west of Como; east longitude $8^{\circ} 50'$, north latitude 46° .

CANOE, a small boat, made of the trunk of a tree, bored hollow; and sometimes also of pieces of bark, sewed together.

It is used by the natives of America to

go a fishing in the sea, or upon some other expedition, either by sea, or upon the rivers and lakes. The negroes in Guinea, and even many in the East-Indies, use also canoes. Two men are sufficient to manage a canoe; and when the falls of the rivers oblige them to land, they carry the canoe and merchandize on their shoulders, till they come above or below the fall, according as they go up or down the rivers or lakes: the largest canoe, either made of the barks or trunks of trees, rarely holds above four persons. The canoes of the savages about Davis's straits, are more extraordinary; they are seven or eight feet long, and two broad, composed of small sticks, of a very pliant wood, in the form of a hurdle, and covered with seal-skins: each canoe holds but one man, who sits in a hole made in the middle of it.

CANON, commonly called **prebendary**, a person who possesses a prebend, or revenue allotted for the performance of divine service in a cathedral or collegiate church. Originally, canons were only priests, or inferior ecclesiastics, who lived in community, residing near the cathedral church to assist the bishop, depending intirely on his will, supported by the revenues of his bishopric, and living in the same house as his domestics or counsellors, &c. By degrees, these communities of priests, shaking off their dependance, formed separate bodies; in time they freed them-

selves from their rules, and at length ceased to live in a community. It is maintained that the colleges of canons, which have been introduced into each cathedral, were not in the antient church, but are of modern appointment.

As the canons have degenerated from their first institution, people have frequently made merry at their cost; not contented with quoting them as so many models of indolence and sensuality, but their corpulency is even become proverbial.

In the romish church, when a person is promoted to the office of a canon, he must be presented in a very ceremonious manner to the chapter, who assemble in the cathedral, in order to receive him: he kisses the altar thrice, after which he goes and takes his place in the choir; he afterwards makes his confession of faith aloud, and swears to observe the ordinances of the church, and his holiness the pope: being thus solemnly installed, he is empowered to assist at the chapter, to chaunt the office of the choir, &c.

Canons are of various kinds, as,

Cardinal-CANONS, those attached, or, as the latins call it, *incardinati*, to a church, as a priest is to a parish.

Domicellory-CANONS, young canons, who, not being in orders, had no right in any particular chapters.

Expectative-CANONS were such as, without having any revenue or prebend, had the titles and dignities of canons, a voice in the chapter, and a place in the choir, till such time as a prebend should fall.

Foreign-CANONS, such as did not officiate in the canonries to which they belonged. To these were opposed mansionary canons.

Regular-CANONS, those who still live in community, and who, like religious, have to the practice of their rules, added the solemn profession of vows.

Tertiary-CANON, a person who had only the third part of the revenues of the canonicate.

CANON, in an ecclesiastical sense, a law, rule, or regulation of the policy and discipline of a church, made by councils either general, national, or provincial.

CANONS of the apostles, a collection of ecclesiastical laws, which, tho' very antient, were not left us by the apostles. It is true, they were sometimes called apostolic canons; but this means no more than that they were made by bishops, who lived soon after the apostles, and

were called apostolical men. They consist of regulations, which agree with the discipline of the second and third centuries: the Greeks generally count eighty-five, but the Latins receive only fifty, nor do they observe all these.

CANON of mass, in the romish church, the name of a prayer which the priest reads low to himself, the people kneeling.

In this part of the mass, the priest particularly mentions some persons for whom he is going to offer the sacrifices, and prays to God for the redemption of their souls, the hopes of their salvation, &c.

Paschal-CANON, a table of the moveable feasts, shewing the day of Easter, and the other feasts depending on it, for a cycle of nineteen years.

CANON of scripture, a catalogue or list of the inspired writings, or such books of the bible as are called canonical; because they are in the number of those books which are looked upon as sacred, in opposition to those which are either not acknowledged as divine books, or are rejected as heretical and spurious, and are called apocryphal. This canon may be considered as jewish and christian, with respect to the sacred writings acknowledged as such by the Jews, and those admitted by the Christians. See the articles **BIBLE** and **INSPIRATION**.

CANON, in monastic orders, a book wherein the religious of every convent have a fair transcript of the rules of their order, frequently read among them, as their local statutes.

CANON is also used for the catalogue of saints acknowledged and canonized in the romish church.

CANON, a japanese idol, who presides over the waters and the fish.

This idol, according to the representation of him, has four arms, is swallowed up by a fish as far as the middle, and is crowned with flowers. He has a sceptre in one hand, a flower in another, and a ring in the third; the fourth is closed, and the arm extended.

CANON, in music, a short composition of two or more parts, in which one leads, and the other follows: or it is a line of any length, shewing, by its divisions, how musical intervals are distinguished, according to the ratios, or proportions, that the sounds terminating the intervals, bear one to another, when considered according to their degree of being acute or grave.

CANONE CHIURO, or **CANONE IN CERPO**,
in

in music, a perpetual figure writ upon one line with some marks, to shew when the parts that imitate are to begin and end.

CANONE PARTITO, or **RESOLUTO**, when all the parts of a perpetual figure are writ either in partitions, or in separate parts, with the proper pauses that each is to observe.

CANON, in arithmetic, algebra, &c. is a rule to solve all things of the same nature with the present inquiry; thus, every last step of an equation in algebra, is such a canon; and, if turned into words, is a rule to solve all questions of the same nature with that proposed.

The tables of logarithms, artificial sines and tangents, are called likewise by the name of canon.

CANON-LAW, a collection of ecclesiastical laws, serving as the rule and measure of church-government.

The power of making laws was exercised by the church before the roman empire became christian. The canon-law that obtained throughout the west, till the twelfth century, was the collection of canons made by Dionysius Exiguus in 520, the capitularies of Charlemagne, and the decrees of the popes, from Siricius to Anastasius.

The canon-law, even when papal authority was at its height in England, was of no force when it was found to contradict the prerogative of the king, the laws, statutes, and customs of the realm, or the doctrine of the established church. The ecclesiastical jurisdiction of the see of Rome in England, was founded on the canon-law; and this created quarrels between kings and several archbishops and prelates, who adhered to the papal usurpation.

Besides the foreign canons, there were several laws and constitutions made here for the government of the church; but all these received their force from the royal assent: and if, at any time, the ecclesiastical courts did, by their sentence, endeavour to enforce obedience to such canons, the courts at common law, upon complaints made, would grant prohibitions. The authority vested in the church of England of making canons, was ascertained by a statute of Henry VIII. commonly called the act of the clergy's submission; by which they acknowledged, that the convocation had been always assembled by the king's writ; so

that though the power of making canons resided in the clergy, met in convocation, their force was derived from the authority of the king's assenting to, and confirming them.

The old canons continued in force till the reign of James I. when the clergy being assembled in convocation, the king gave them leave to treat and consult upon canons, which they did, and presented them to the king, who gave them the royal assent: these were a collection out of the several preceding canons and injunctions. Some of these canons are now obsolete. In the reign of Charles I. several canons were passed by the clergy in convocation.

CANONESS, in the romish church, a woman who enjoys a prebend, affixed, by the foundation, to maids, without their being obliged to renounce the world, or make any vows.

CANONICAL, something belonging to, or partaking of the nature of a canon: thus we read of canonical obedience, which is that paid by the inferior clergy to their superiors, agreeably to the canon-law. See the article **CANON-LAW**.

We also meet with canonical life, canonical hours, &c. used much in the same sense. See the article **CANON**.

CANONIST, a person skilled in, or who makes profession of the canon-law. See the article **CANON-LAW**.

CANONIZATION, a ceremony in the romish church, by which persons deceased are ranked in the catalogue of the saints. It succeeds beatification. See the article **BEATIFICATION**.

Before a beatified person is canonized, the qualifications of the candidate are strictly examined into, in some consistories held for that purpose; after which one of the consistorial advocates, in the presence of the pope and cardinals, makes the panegyric of the person who is to be proclaimed a saint, and gives a particular detail of his life and miracles: which done, the holy father decrees his canonization, and appoints the day.

On the day of canonization, the pope officiates in white, and their eminences are dressed in the same colour. St. Peter's church is hung with rich tapestry, upon which the arms of the pope, and of the prince or state requiring the canonization, are embroidered in gold and silver. An infinite number of lights blaze all round the church, which is

crowded with pious souls, who wait, with a devote impatience, till the new saint has made his public entry, as it were, into paradise, that they may offer up their petitions to him, without danger of being rejected.

The following maxim, with regard to canonization is now observed, tho' it has not been followed above a century, *viz.* not to enter into the inquiries prior to canonization, till fifty years, at least, after the death of the person to be canonized. By the ceremony of canonization, it appears that this rite of the modern Romans, has something in it very like the apotheosis or deification of the antient Romans, and in all probability owes its rise to it; at least, several ceremonies of the same nature are conspicuous in both.

CANONOR, a town on the Malabar-coast, in the higher India: east long. 75° , north lat. 10° .

Here the Dutch have a fort and factory, which they took from the Portuguese in 1663.

CANONRY, the benefice filled by a canon. It differs from a prebend, in that the prebend may subsist without the canonicate; whereas the canonicate is inseparable from the prebend: again, the rights of suffrages, and other privileges, are annexed to the canonicate, and not to the prebend.

CANOPUS, in astronomy, a star of the first magnitude in the rudder of Argo, a constellation of the southern hemisphere. See the article **ARGO**.

CANOPY, a magnificent covering, raised above an altar, throne, chair of state, pulpit, and the like.

The word canopy comes from the Greek *κανοπιον*, a net spread over beds to keep off the gnats, from *κανοψ*, a gnat.

CANSO, a port-town of Nova-Scotia, or New Scotland, in North-America, situated on a narrow strait, which separates Nova-Scotia from the island of Cape-Breton: west longitude 62° , north latitude 45° .

CANT, or **CANTING-LANGUAGE**, that made up of words and phrases not authorized by the established idiom, but peculiar to certain persons and professions. The introduction of cant-terms into the english language, is attributed by some to the natural taciturnity of the people, which makes them curtail long words; as *physæ* for physiognomy, *mobb* for mobility, &c.

CANT is also a term sometimes used for a

sale by auction, being probably derived from the latin *quantum*.

CANT, among carpenters. When a piece of timber comes the wrong way in their work, they say cant it, that is, turn it over.

CANTALIVERS, in architecture, pieces of wood framed into the front or other sides of a house, to suspend the mouldings and eaves over it.

These seem, in effect, to be the same with modillions, except that the former are plain, and the latter carved: they are both a kind of cartouches, set at equal distances, under the corona of the cornice of a building.

CANTAR, or **CANTARO**, in commerce, a weight used in Italy, particularly at Leghorn, to weigh some sorts of merchandizes.

There are three sorts of cantari, or quintals, one weighs 150 pounds, the other 151, and the third 160: the first serves to weigh alum and cheese, the second is for sugar, and the third for wool and coal fish.

CANTATA, in music, a song or composition, intermixed with recitatives, airs, and different movements, chiefly intended for a single voice, with a thorough bass, though sometimes for other instruments. When it is intended for the church, it is called *cantata morali ó spirituali*: but when the subject is on love, *cantata amorose*, &c.

The cantata, when performed with judgment, has something in it very agreeable; the variety of the movements not clogging the ear, like other compositions. It was first used in Italy, then in France, whence it passed to us.

CANTEL, *cantellum*, the small moiety usually given over and above the precise measure.

CANTERBURY, the capital city of Kent, fifty-five miles east of London, and sixteen north-west of Dover: east long. $1^{\circ} 15'$ north lat. $51^{\circ} 16'$.

It is a county of itself, and the see of an archbishop, who is primate and metropolitan of all England. It is a large, populous, and trading city: has a good silk manufactory, and sends two members to parliament.

CANTERBURY-BELL, in botany, the name by which some call the campanula, or bell-flower.

CANTHARIS, in zoology, a genus of four-winged flies, with setaceous antennæ, the exterior wings of which are flexible,



flexile, the thorax somewhat flattened, and the sides of the abdomen plicated.

The cantharides, tho' usually called spanish flies with us, are properly of the scarabæus, or beetle-kind: the creature is usually about half an inch in length, and a third of an inch, or somewhat less, in breadth: it is of a fine shining and beautiful colour, on the upper side a bright green, with a mixture or shade of gold-yellow. See plate XXXVI. fig. 5. where one of them is represented.

From the eggs of the parent cantharis, are hatched a small kind of worms, of a dusky colour, with six legs; and from these worms are afterwards produced the cantharides, as the butterflies are from the caterpillars: they are frequent in France, Spain, and Italy, where being taken, and suspended over the fumes of vinegar, they are exposed to the sun to dry, and then sold to the druggist.

The principal use of the cantharides, at this time, is external, in making of blisters. We have a tincture of cantharides in the shops, that is reputed an excellent medicine. It is diuretic, and emmenagogue, and has been given in the gout with success.

To prepare the tincture of cantharides, take two drams of bruised cantharides, half a dram of cochineal, a pint and a half of proof spirit; digest them together in a sand heat, then filter the tincture for use.

CANTHI, in anatomy, cavities at the extremities of the eye-lids, commonly called the corners of the eye: the greater of them, or the greater canthus, is next the nose; the lesser, or the little canthus, lies towards the temple.

CANTHUS, in chemistry, the lip of a vessel, or that part of it which is a little hollowed or depressed, for the easy powering off of liquors.

CANTIC-QUOIN. See **QUOIN**.

CANTICLES, a canonical book of the Old Testament. The talmudists ascribe it to Hezekiah, but the learned are agreed that king Solomon was the author of it; and his name is prefixed to it in the title of the hebrew text, and of the antient greek version.

It is a kind of epithalamium, in the form of an idyl, or bucolic, in which are introduced, as speakers, a bridegroom, a bride, the friends of the bridegroom, and the companions of the bride. The bridegroom and bride express their love for each other in very tender and affectionate

terms; for which reason the Jews never allowed this book to be read by any, till they were at least thirty years of age.

Some authors are of opinion, that Solomon's design in this piece was, to describe his amour with Abishag, the Shunamite, or with the daughter of Pharaoh: on the contrary, others take it to be wholly allegorical, and understand it of the spiritual love of God towards his church. Some have pretended to discover in it five scenes; but others, with more justness, distinguish it into seven days, during which the antients celebrated their nuptials.

CANTIMARONS, or **CATIMARONS**, a kind of raft made of three or four hollowed trunks of trees, tied together with ropes of cocoa, with a triangular sail in the middle made of mats. They are used by the inhabitants of the coast of Coromandel, to go a fishing, and to trade along the coast.

CANTIN, or *Cape-CANTIN*, a promontory in the atlantic ocean, on the coast of Morocco in Africa: west longitude 10°, north latitude 33°.

CANTING LANGUAGE. See **CANT**.

CANTIRE, or **KANTIRE**, a peninsula of Scotland in Argyleshire, stretching into the irish sea, westward of the isle of Arran.

CANTO, in music, the treble, or at least the higher part of a piece.

This word more properly signifies the first treble, unless the word *secondo*, for the second, or *ripieno*, for the treble of the grand chorus, be added.

Canto-Concertante, is the treble of any principal part in a concerto, and generally plays or sings throughout.

Canto-Fermo, or *Simplice*, is what they call the plain song.

Canto-Figurato, signifies a composition wherein the parts differ from one another in their figures and motions, and is the reverse of canto-ermo.

CANTON, in geography, denotes a small country, or district, constituting a distinct government: such are the cantons of Switzerland. See **SWITZERLAND**.

CANTON is also the name of a large, populous, and wealthy city and port-town of China, situated on the river Ta, about fifty miles from the Indian ocean: east longitude 112° 30', north latitude 23° 25'. It is a fortified place, within the walls of which no christians are permitted to enter, notwithstanding their great trade thither;

thither; it being from thence that they import all manner of chinese goods, as china-ware, tea, cabinets, raw and wrought silks, gold-dust, &c.

CANTONED, in architecture, is when the corner of a building is adorned with a pillaster, an angular column, rustic quoins, or any thing that projects beyond the naked of a wall.

CANTONED, or **CANTONIZED**, *cantonné*, in heraldry, the positions of such things as are borne with a cross, &c. between. He bears gules, a cross argent cantoned with four scallop-shells.

CANTONING, in the military art, is the allotting distinct and separate quarters to each regiment of an army; the town, where they are quartered, being divided into so many cantons, or divisions, as there are regiments.

CANTRED, or **CANTREF** signifies an hundred villages, being a british word, compounded of the adjective *cant*, i. e. hundred, and *tref*, a town or village. In Wales, some of the counties are divided into cantreds, as in England into hundreds.

CANVAS, in commerce, a very clear unbleached cloth of hemp, or flax, wove very regularly in little squares. It is used for working tapestry with the needle, by passing the threads of gold, silver, silk, or wool, through the intervals, or squares. This also is the name of a coarse cloth of hemp, unbleached, somewhat clear, which serves to cover womens stays, also to stiffen mens cloaths, and to make some other of their wearing apparel, &c.

It is likewise the name of a very coarse cloth made of hemp, unbleached, serving to make towels, and answering other domestic purposes. It is also used to make sails for shipping, &c.

CANUTI-AVIS, in ornithology, the grey tringa, with the wings spotted with white. See the article **TRINGA**.

This bird is about the size of the starling, or somewhat less; the tail is variegated with black and white; it lives about waters; we have it in the fens of the isle of Ely, and it is common to many other parts of Europe.

CANZONE, in music, signifies, in general, a song where some little figures are introduced: but it is sometimes used for a sort of italian poem, usually pretty long, to which music may be composed in the stile of a cantata. If this term be added to a piece of instrumental music, it signifies much the same as cantata: if placed

in any part of a sonata, it implies the same meaning as *allegro*, and only denotes that the part to which it is prefixed, is to be played or sung in a brisk and lively manner.

CANZONETTA, a diminutive of canzone, denoting a little short song: the canzonette neapolitane have two strains, each whereof is sung twice over, as the vaudevilles of the French: the canzonette siciliane are a species of jig, the measure whereof is usually twelve eights, and six eights, and sometimes both, are rondeaus.

CAOLIN, or **KAOLIN**. See **KAOLIN**.

CAORLO, an italian island at the bottom of the gulph of Venice, situated about twenty miles south-west of Aquileia; east long. 13°, north lat. 46°.

It is subject to Venice.

CAP, a part of dress made to cover the head, and much in the figure thereof.

The use of caps and hats is referred to the year 1449, the first seen in these parts of the world, being at the entry of Charles VII. into Rouen: from that time they began to take place of the hoods, or chaperoons, that had been used till then. When the cap was of velvet, they called it mortier; when of wool, simply bonnet. None but kings, princes, and knights, were allowed the use of the mortier. The cap was the head-dress of the clergy and graduates: church-men and members of universities, students in law, physic, &c. as well as graduates, wear square caps in most universities. Doctors are distinguished by peculiar caps, given them in assuming the doctorate. Pasquier says, that the giving the cap to students in the universities, was to denote that they had acquired full liberty, and were no longer subject to the rod of their superiors, in imitation of the antient Romans, who gave a pileus or cap to their slaves, in the ceremony of making them free.

The cap is also used as a mark of infamy in Italy. The Jews are distinguished by a yellow cap at Lucca, and by an orange one in France. Formerly those who had been bankrupts, were obliged, ever after, to wear a green cap, to prevent people from being imposed on in any future commerce.

CAP of maintenance, one of the regalia, or ornaments of state belonging to the kings of England, before whom it was carried at the coronation, and other great solemnities. Caps of maintenance are also carried

ried before the mayors of several cities in England.

CAP, in a ship, a square piece of timber put over the head, or upper end of any mast, having a round hole to receive the mast. By means of these caps, the top-masts and top-gallant-masts are kept steady and firm in the tressel-trees where their feet stand.

CAP of a gun, a piece of lead which is put over the touch-hole of a gun, to keep the priming from being wasted or spoiled.

CAPACIA, a town of Italy, in the kingdom of Naples, situated in the hither Principate, about sixteen miles south of Salerno; east longitude $15^{\circ} 16'$, north latitude $40^{\circ} 40'$.

CAPACITY, in a general sense, an aptitude, or disposition to retain, or hold any thing.

CAPACITY, in geometry, is the solid contents of any body; also our hollow measures for wine, beer, corn, salt, &c. are called measures of capacity.

CAPACITY, in law, the ability of a man, or body politic, to give or take lands, or other things, or sue actions.

Our law allows the king two capacities, a natural and a political; in the first, he may purchase lands to him and his heirs; in the latter, to him and his successors. The clergy have the like.

CAPARASON, or horse-cloth, a sort of cover for a horse. For led horses, it is commonly made of linen-cloth, bordered round with woollen, and enriched with the arms of the master upon the middle, which covers the croupe, and with two cyphers on the two sides. The caparasons for the army, are sometimes a great bear's skin; and those for tables, are of single buckram in summer, and of cloth in the winter.

CAPAX, in the order of Malta, a name given to the knights that have resided five years at Malta, have made four caravans, or sea-campaigns, and are in a condition of coming to a command.

CAPE, in geography, an high land running out, with a point, into the sea, as Cape-Norde, Cape-Hörn, the cape of Good hope, &c.

CAPE-COAST-CASTLE, the principal british fort and settlement on the gold-coast of Guinea, situated under the meridian of London, in 5° north latitude.

CAPE, in law, a judicial writ concerning plea of lands or tenements, and is divided into *cape magnum* and *cape parvum*, both of which affect things im-

moveable; and besides these, there is a *cape ad valenciam*.

Cape magnum, or the grand cape, lies before appearance, to summon the tenant to answer the default, and also aver to the demandant.

The *cape parvum*, is after appearance and view granted, and it summoneth the tenant to answer the default only.

Cape magnum is designed to lie, where a person has brought a *precipe quod reddat* of a thing, that touches a plea of land, and the tenant makes default at the day given to him in the original writ; then this writ shall go for the king, to take the land into his hands: and if he comes not at the day given him, he loses his land, &c.

Cape parvum, called petit-cape, is defined thus. When the tenant is summoned in plea of land, and cometh at the summons, and his appearance is recorded; and after he maketh default at the day that is given to him, then this writ shall go for the king.

Cape ad valenciam, is a species of *cape magnum*, where one being impleaded, and on a summons to warrant lands, a vouchee does not come at the day; whereupon if the demandant recovers of the tenant, he shall have this writ against the vouchee, and recover so much in value of his lands, in case he hath so much; and if not, there shall be an execution of such lands and tenements as shall after descend to him in fee; or if he purchases afterwards, there may be a re-summons, &c. against him.

CAPELLA, in astronomy, a bright fixed star of the first magnitude, in the left shoulder of the constellation auriga. It is, in the britannic catalogue, the fourteenth in order of that constellation. Its longitude is $17^{\circ} 31' 41''$, its latitude $22^{\circ} 51' 47''$.

CAPER, *capparis*, in botany. See the article *CAPPARIS*.

The buds of this plant make a considerable article in commerce, they are imported from Italy in pickle, and used in sauces, &c.

The caper-bark of the shops, is not the bark of the branches, but that of the roots of the shrub which produces it.

It is an aperient and attenuant, and is recommended in nephritic cases, and in dropries, jaundices, and many other chronic diseases: but the present practice does not pay any regard to it.

CAPER, in the dutch maritime affairs, a vessel

vessel fitted out to cruise upon, or take prizes from the enemy, like our privateers. See the article PRIVATEER.

CAPERQUIN, a town of Ireland in the country of Waterford, and province of Munster, situated on the river Blackwater: west longitude $7^{\circ} 50'$, and north lat. $52^{\circ} 5'$.

CAPHAR, a duty which the Turks raise on the christians, who carry or send merchandises from Aleppo to Jerusalem, and other places in Syria.

This duty of caphar was first imposed by the christians themselves, when they were in possession of the Holy-Land, for the maintenance of the troops, which were planted in difficult passes, to observe the Arabs, and prevent their incursions. It is still continued, and much increased by the Turks, under pretence of defending the christians against the Arabs, with whom, nevertheless, they keep a secret intelligence, favouring their excursions and plunders.

CAP-AGA, or **CAPOU-AGASSI**, a turkish officer, who is, as it were, grand-master of the seraglio.

He is the first in dignity and repute of all the white eunuchs, and is always near the grand signior's person. It is he who introduces embassadors to audience; and all great affairs pass through his hands before they come to that of the prince.

CAPIAS, in law, a writ of two sorts, one before judgment in an action, and the other after: that before judgment is called *capias ad respondendum*, where an original is sued out, &c. to take the defendant, and make him answer the plaintiff; and that after judgment is the *capias ad satisfaciendum*, &c.

CAPIAS AD SATISFACIENDUM is a writ of execution that issues on a judgment obtained, and lies where any person recovers in a personal action, as for debt, damages, &c. in which cases this writ issues to the sheriff, commanding him to take the body of him, against whom the debt is recovered, who is to be kept in prison till he make satisfaction.

CAPIAS CONDUCTOS AD PROFICISCENDUM, an original writ, which lies, by the common law, against any soldier, who has covenanted to serve the king in war, and appears not at the time and place appointed. It is directed to two of the king's serjeants at arms, to arrest and take him wherever he can be found, and to bring him *coram consilio nostro*, with a clause of assistance,

CAPIAS PRO FINE is a writ lying where a person is fined to the king, for some offence committed against a statute, and he does not discharge the fine according to the judgment; therefore his body shall be taken by this writ, and committed to gaol till the fine is paid.

CAPIAS UTLEGATUM, a writ which lies against any one outlawed, upon any action personal or criminal, by which the sheriff is ordered to apprehend the party outlawed, for not appearing on the exigent, and keep him in safe custody till the day of return, when he is to present him to the court, to be there farther ordered for his contempt.

CAPIAS IN WITHERNAM, a writ that lies for cattle in *withernam*; that is, where a distress taken, is driven out of the county, so that the sheriff cannot make deliverance upon a replevin; then this writ issues, commanding the sheriff to take as many beasts of the distrainer.

CAPIGI, in the turkish affairs, the name of certain inferior officers belonging to the seraglio, to the number of five hundred, whose business is to assist the janizaries in guarding the first and second gate of that palace; whence also the name capighi, which signifies a gate.

CAPILLAMENT, in a general sense, signifies a hair, whence the word is applied to several things, which, on account of their length or their fineness, resemble hairs; as,

CAPILLAMENTS of the nerves, in anatomy, the fine fibres, or filaments, whereof the nerves are composed.

CAPILLAMENTS, in botany, those small threads, or hairs, which grow up in the middle of a flower, and are adorned with little knobs at the top; those knobs are called the apices, or antheræ, of a flower; and the capillaments are called the stamina. See the article STAMINA.

CAPILLARY, in a general sense, an appellation given to things on account of their extreme fineness, or resembling hair.

CAPILLARY ORES, in mineralogy, the same with those otherwise denominated *arborescent*, or *striated*.

CAPILLARY PLANTS are such plants as have no main stem, but their leaves arise from the root, upon pedicles, and produce their seeds on the back of their leaves, as the fern, maiden-hair, &c.

These plants are either with an undivided leaf, as the hemionitis and the phyllis; or with a single divided leaf, which last have the leaf either cut or jagged in,

but not divided into pinnæ, clear home to the main rib, as polypodium, lonchitis, scolopendria, &c. or else the leaf divided quite home to the rib, and hanging like pinnæ, as the *chamæfelix marina* and the *trichomanes*: others have the leaf doubly divided, or at least once subdivided, the first division being into branches, and the second into pinnæ, as the *hemionis multifida*, &c. others have the leaf trebly divided, or thrice subdivided, *viz.* first into branches, then into little twigs, and after this into pinnæ; and these are the *filiæ scandens* of Brasil, the *filiæ florida*, the *filiæ mas ramosa*, &c.

CAPILLARY TUBES, in physics, little pipes, whose canals are extremely narrow, their diameter being only a half, third, or fourth of a line. See the article **TUBE**. The ascent of water, &c. in capillary tubes, is a phenomenon that has long embarrassed the philosophers; for let one end of a glass-tube, open at both ends, be immersed in water, and the liquor within the tube will rise to some sensible height above the external surface: or if two or more tubes are immersed in the same fluid, one of them a capillary one, the other of a large bore, the fluid will ascend higher in the capillary tube than in the other, and this in the reciprocal ratio of the diameters of the tubes.

In order to account for this phenomenon, it will be necessary first to premise, that there is a greater attraction between the particles of glass and water, than there is between the particles of water themselves: this appears plain from experience, which proves the attractive power in the surface of glass to be very strong; whence it is easy to conceive how sensibly such a power must act on the surface of a fluid, not viscous, as water, contained within the small cavity or bore of a glass-tube; as also that it will be in proportion stronger as the diameter of the bore is smaller; for that the efficacy of the power follows the inverse proportion of the diameter, is evident from hence, that only such particles as are in contact with the fluid, and these immediately above the surface, can affect it. Now these particles form a periphery contiguous to the surface, the upper part of which attracts and raises the surface, and the lower part, which is in contact with it, supports and holds its up, so that neither the thickness nor length of the tube avails any thing, only the said periphery of particles, which is always proportional to the diameter of the bore: the quanti-

ty of the fluid raised, will therefore be as the surface of the bore which it fills, that is, as the diameter; as the effect would not be otherwise proportional to the cause, since the quantities follow the ratio of the diameters, the heights to which the fluids will rise, in different tubes, will be inversely as the diameters. Some, however, doubt whether the law holds throughout, of the ascent of the fluid being always higher as the tube is smaller; Dr. Hook's experiments, with tubes almost as fine as cobwebs, seem to shew the contrary. The water in these, he observes, did not rise so high as one would have expected. The highest he ever found was at 21 inches above the level of the water in the basin, which is much short of what it ought to have been by the law above-mentioned.

CAPILLARY VESSELS, in anatomy, the smallest and extreme parts of the veins and arteries.

These are the least, minutest, and insensible ramifications of the veins, so fine, that when cut or broken they yield little or no blood: they are conceived as vastly finer than hairs, and are best compared to the threads of cobwebs: they are sometimes called evanescent vessels.

Many small vessels of animal bodies have been discovered by the modern invention of injecting the vessels of animals with a coloured fluid, which upon cooling grows hard. But though most anatomists know the manner of filling the large trunks, few are acquainted with the art of filling the capillaries. Mr. Monro has given us what he, after many trials, has found most successful, in the *Medic. Edinb.* vol. 1. art. 9. where he enters into a very nice detail of the operation, to which we must refer the curious. See the article **INJECTION**.

CAPILLARY WORMS, in medicine, a kind of worms found in children, and otherwise called *crinones*. See **CRINONES**.

CAPILLATION, in greek *τριχισμος*, a capillary fracture in the cranium, so small that it can scarce be perceived, but yet it often proves mortal. See **FRACTURE**.

CAPILLITIUM VENERIS, in physiology, denotes the fine threads seen floating in the air, in autumn; which, according to some, are only the sulphureous and earthy particles of a cloud, after the water has been exhaled; but it seems more probable that they are the work of spiders. See the article **AIR-THREADS**.

CAPISTRUM, in surgery, a term appli-

ed to a bandage used in case of fractures of the jaws. The capistrum simplex is applied in fractures of the lower jaw, and the capistrum duplex, when both sides of the jaw are fractured.

CAPISTRUM, among antient musicians, a bandage made of skins, with which the mouth and lips of the performer were bound up, leaving only a small chink to admit the flute. Some believe that the capistrum was used in order to conceal from the spectators the distortion of the features by inflating the cheeks. Others imagine that it was intended to moderate the breath, and give a soft sound to the flute.

CAPITAL, the head, chief, or principal of a thing. Thus,

CAPITAL, in geography, denotes the principal city of a kingdom, province, or state; as London is the capital of Britain, Paris of France, Madrid of Spain, York of the county of that name, &c. See the article **METROPOLIS**.

CAPITAL, among merchants, traders, and bankers, signifies the sum of money which individuals bring to make up the common stock of a partnership, when it is first formed. It is also said of the stock which a merchant at first puts into trade, for his account. It signifies likewise the fund of a trading company, or corporation, in which sense the word stock is generally added to it: thus we say, the capital stock of the bank, &c. The word capital is opposed to that of profit or gain, though the profit often increases the capital, and becomes itself a part of it.

CAPITAL CRIME, such a one as subjects the criminal to capital punishment, that is, the loss of life.

CAPITAL MEDICINES, in pharmacy, the principal preparations of the shops, remarkable for the number of their ingredients, and their extraordinary virtues: such are mithridate, venice treacle, &c.

CAPITAL LEES, the strong lees made by the soap-boilers, from pot-ashes.

CAPITAL LETTERS. See **CAPITALS**.

CAPITAL, in architecture, the uppermost part of a column or pilaster, serving as the head, or crowning, and placed immediately over the shaft, and under the entablature.

CAPITAL of a column is properly that whose plan is round.

CAPITAL of a pilaster is that whose plan is square, or, at least, rectilinear.

The capital is the principal part of an order of columns or pilasters. It is of a

different form in the different orders, and is that which chiefly distinguishes and characterises the orders. Such of these as have no ornaments, as the tuscan and doric, are called capitals of mouldings; and the rest, which have leaves and other ornaments, capitals of sculptures.

Tuscan CAPITAL consists of three members, *viz.* an abacus, under this an ovolo or quarter round, and under that a neck or colarino, terminating in an astragal, or fillet, belonging to the shaft. See the article **ABACUS**, &c.

It is the most simple and unadorned of all capitals; and the character which distinguishes it from the doric, is that the abacus is square, and quite plain without moulding. It is true, authors vary a little as to the character of this capital: Vignola gives the abacus a fillet; Vitruvius and Scamozzi add an astragal and a fillet, between the ovolo and neck; Serlio, only a fillet; and Philander rounds the corners of the abacus. In the trajan column there is no neck, but the astragal of the shaft is confounded with that of the capital. The height of this capital is the same with that of the base, *viz.* one module, or semidiameter. The projecture is equal to that of the cincture at the bottom of the column, *viz.* $\frac{1}{2}$ of the module. See the article **TUSCAN**.

Doric CAPITAL has its abacus crowned with a talon, and three annulets under the ovolo. Authors also vary as to the characters of this capital: Palladio, Vignola, &c. put roses under the corners of the abacus, and in the neck of the capital: Vitruvius makes the height of this capital equal to half the diameter of the body of the column below. See **DORIC**.

Ionic CAPITAL, that which is distinguished by volutes and ovolos. The ovolo is adorned with eggs, as they are sometimes called from their oval form. The height of this capital Mr. Perrault makes eighteen minutes, its projecture one module seven tenths. The differences in the character of this capital, flow mostly from the different management of the volutes, and consist in this: 1. That in the antique, and some of the modern, the eye of the volute does not answer the astragal of the top of the shaft, as Vitruvius and some of the moderns make it. 2. That the face of the volutes, which usually makes a flat, is sometimes curved and convexed, so that the circumvolutions go advancing outwards, as is frequent in the antique. 3. That the border or rim of the

scroll

scroll in the volute, is sometimes not only a plane sweep, but the sweep is accompanied with a fillet. 4. That the leaves which invest the balluster are sometimes long and narrow, sometimes larger and broader. 5. That the two faces of the volutes are sometimes joined at the outward corner, the ballusters meeting in the middle, to make a regularity between the faces on the front and back of the building, with those of the sides. 6. That among the moderns, since Scamozzi, the ionic capital has been altered, and the four faces made alike, by taking away the balluster and hollowing all the faces of the volute inwards, as in the composite. 7. That Scamozzi and some others, make the volutes to spring out of the ovolo, as from a base; whereas in the antique the bark passes between the ovolo and abacus, quite straight, only twisting at its extremities, to form the volute. And lastly, that of late years the sculptors have added a little kind of festoons, sprung from the flower, whose stalk lies on the circumvolution of the volute. See the article *IONIC*.

Corinthian CAPITAL is the richest of all, being adorned with a double row of leaves, with eight large and as many small volutes, situated round a body, which by some is called campana or bell, and by others tambour. The height of this capital is two modules one third, and its projecture, one and one third. See the article *CORINTHIAN*.

The differences in the characters of this capital are, 1. That, in Vitruvius, &c. the leaves are in the form of the acanthus; whereas in the antique they are more usually olive-leaves. 2. That their leaves are usually unequal, the undermost being commonly made tallest, but sometimes the shortest; though they are sometimes all equal. 3. The leaves are sometimes ruffled, sometimes quite plane; the first row generally bellies out towards the bottom, but at other times they are straight. 4. Sometimes the horns of the abacus are sharp at the corner, but most commonly they are cut. 5. There is some difference in the form and size of the rose. 6. The volutes are sometimes joined to each other, and at other times wholly separated. 7. Sometimes the spires of the volutes continue twisting even to the end, in the same course; and sometimes they are turned back again near to the center, in the form of the letter S.

Composite CAPITAL, that which has the

double row of leaves of the corinthian; and the volutes of the ionic capital. See the article *COMPOSITE*.

The height of this capital is two modules one third, and the projectures one and two thirds.

The differences of its character consist in this, 1. That the volutes which ordinarily descend and touch the leaves, are in some works of the antique separated from them. 2. That the leaves are sometimes unequal in height, the lowest being the tallest; and sometimes equal. 3. That the volutes of the moderns generally spring out of the base; whereas in the antique they run straight the length of the abacus, over the ovolo, without striking into the base. 4. That the volutes, whose thickness is contracted in the middle, and enlarged above, and below in the antique, in the works of the moderns have their sides parallel. 5. That the volutes which have been hitherto made as if solid, both by the antients and moderns, are now made much lighter and more airy; the folds standing hollow, and at a distance the one from the other.

Attic CAPITAL, that which has leaves of partition in the gorge.

For the proportions of the several members of the capitals of columns, see each member under its proper head, as *ABACUS*, *VOLUTE*, &c. and the article *COLUMN*.

Angular CAPITAL, that which bears the return of an entablature, at the corner of the projecture of a frontispiece.

CAPITAL of a balluster, that part which crowns a balluster, resembling sometimes the capitals of some order, especially the ionic.

CAPITAL of a triglyph, the plat-band over the triglyph, called by Vitruvius *tænia*. It is sometimes a triglyph which does the office of a capital to the doric pillar.

CAPITAL of a nich, a kind of little canopy made over a shallow nich, to cover a statue.

CAPITAL of a lanthorn, a covering sometimes of one shape, and sometimes of another, which finishes the lanthorn of a dome.

CAPITAL of a bastion, in fortification, a line drawn from the angle of a polygon to the point of the bastion; or from the point of the bastion to the middle of the gorge. These capitals are from thirty-five to forty fathoms in length, from the point of the bastion to the place where the two demi-gorges meet.

CAPITALS, among printers, large or initial

tial letters, in which titles are composed, and with which all periods, verses, &c. commence.

The english printers some time ago made it a rule to begin almost every substantive with a capital; a custom not more absurd than that of using no capitals at all, according to a french book lately published.

CAPITANATE, a province of the kingdom of Naples, situated on the gulph of Venice, and having the province of Molise on the north, and the Principate on the south.

CAPITATED PLANTS, *capitatae plantæ*, in botany, a name given by Mr. Ray to those plants, whose seeds, with their down, being included in a scaly calyx, are conglobated into a roundish figure like a head: such are the carduus, centaury, cinara, &c.

CAPITATION, a tax or imposition raised on each person in consideration of his labour, industry, office, rank, &c. It is a very antient kind of tribute, and answers to what the Greeks called *κεφάλιον*. The Latins call it *tributum*, by which taxes on persons are distinguished from taxes on merchandise, which were called *vedigalia*.

Capitations are never practised among us but in exigencies of state. In France, the capitation was introduced by Lewis XIV, in 1695, and is a tax very different from the taille, being levied from all persons, whether they be subject to the taille or not. The clergy pay no capitation, but the princes of the blood are not exempted from it.

CAPITE, in law, an antient tenure of land, which was held immediately of the king, as of his crown, either by knight's service, or soccage. The tenure in capite was of two kinds; the one principal and general, the other special or subaltern. The former was of the king, the fountain from whence all tenures have their main original. The latter was of a particular subject, so called because he was the first that granted the land in such manner, and hence he was stiled *capitalis dominus*, and *caput terre illius*.

This tenure is now abolished, and, with others, turned into common soccage.

CAPITE CENSI, in roman antiquity, the poorer sort of people, who in the census, or assessments, were valued at little or nothing, but only named or reckoned as citizens. See the article **CENSUS**.

CAPITO, in ichthyology, a name given

to several species of *cyprinus*, as the chub, rudd, &c. as also to the mugil, or muller.

CAPITOL, in antiquity, a castle on the Mons Capitolinus, at Rome, where there was a temple dedicated to Jupiter, in which the senate antiently assembled; and which still serves as the city-hall, or town-house, for the meeting of the conservators of the Roman people.

The foundations of the capitol were laid by Tarquin the elder, in the year of Rome 139: his successor Servius raised the walls, and Tarquin the proud finished it in 221; but it was not consecrated till the third year after the expulsion of the kings, and establishment of the consulate. The ceremony of the dedication of the temple was performed by the consul Horatius, in 246.

The capitol consisted of three parts, a nave, sacred to Jupiter; and two wings, the one consecrated to Juno, and the other to Minerva: it was ascended to by stairs; the frontispiece and sides were surrounded with galleries, in which those who were honoured with triumphs entertained the senate at a magnificent banquet, after the sacrifices had been offered to the gods.

Both the inside and outside were enriched with infinite ornaments, the most distinguished of which was the statue of Jupiter, with his golden thunder-bolt, his sceptre, and crown. In the capitol also were a temple to Jupiter the guardian, and another to Juno, with the mint; and on the descent of the hill was the temple of Concord.

This beautiful edifice contained the most sacred deposits of religion, such as the ancyliæ, the books of the sybils, &c.

Antiently the name capitol was given to the principal temples of the roman colonies, as at Constantinople, Jerusalem, Ravenna, Capua, &c.

CAPITOLINE GAMES, annual games instituted by Camillus, in honour of Jupiter Capitolinus, and in commemoration of the capitol's not being surpris'd by the Gauls. Plutarch tells us, that a part of the ceremony consisted in the public cryer's putting up the Hæturians to sale by auction: they also took an old man, and tying a golden bulla about his neck, exposed him to the public derision. Festus says, they also dressed him in a prætexta. There was another kind of capitoline games, instituted by Domitian, wherein there were rewards and crowns bestowed on the poets, champions, orators, historians,

rians, and musicians. These last capitoline games were celebrated every five years, and became so famous, that instead of calculating time by lustra, they began to count by capitoline games, as the Greeks did by olympiads. It appears, however, that this custom was not of long continuance.

CAPITOUL, an appellation given to the chief magistrates of Tholouse, on account of their meeting in a place called the capitol: they are eight in number, are chosen annually, and have each the government of a capitoulade, or precinct, like the wards of London.

CAPITULARIALIA, assemblies or chapters held formerly by rural deans and parochial clergy, within the precinct of each deanry; held at first every three weeks, afterwards once a month; and more solemnly once a quarter.

CAPITULAR, in general, a book divided into several chapters, or *capitula*: but by particular application, is taken for a collection of civil and canonical law; and more especially for those laws and regulations which the kings of France made at the public meetings of the bishops and temporal lords, for the government of the church. The execution of what related to church affairs was intrusted with the archbishops and bishops; and those capitulars which concerned the temporal government, were put into the hands of the earls and other lords. In the eighth and following centuries, bishops called their synodical regulations for discipline, *capitula*, or capitulars: they were commonly drawn from canons of councils, or the determinations of the fathers. These decisions carried the force of law no farther than the diocese where they were published, unless approved by a council, or the metropolitan, in which latter case they were observed through the whole province.

The celebrated author of the Spirit of Laws, observes, that as France was divided into several small principalities, in a manner independent of one another, it was a difficult matter to cause the capitulars to be every where observed; and that therefore they were, in course of time, entirely forgot.

CAPITULATION, in military affairs, a treaty made between the garrison or inhabitants of a place besieged, and the besiegers, for the delivering up the place on certain conditions.

The most honourable and ordinary terms

of capitulation are, to march out at the breach, with arms and baggage, drums beating, colours flying, a match lighted at both ends, and some pieces of cannon, waggons, and convoys, for their baggage, and for the sick and wounded.

CAPITULATION, in the german polity, a contract which the emperor makes with the electors, in the name of all the princes and states of the empire, before he is declared emperor, and which he ratifies before he is raised to that sovereign dignity. The principal points which the emperor undertakes to observe, are, 1. To defend the church and the empire. 2. To observe the fundamental laws of the empire. And, 3. To maintain and preserve the rights, privileges, and immunities of the electors, princes, and other states of the empire, specified in the capitulation. These articles and capitulations are presented to the emperor by the electors only, without the concurrence of the other states, who have complained from time to time of such proceedings; and in the time of the westphalian treaty, in 1648, it was proposed to deliberate in the following diet, upon a way of making a perpetual capitulation; but the electors have always found means of eluding the execution of this article. In order however to give some satisfaction to their adversaries, they have inserted in the capitulations of the emperors, and in that of Francis I. in particular, a promise to use all their influence to bring the affair of a perpetual capitulation to a conclusion. Some german authors own that this capitulation limits the emperor's power; but maintain that it does not weaken his sovereignty: though the most part maintain that he is not absolute, because he receives the empire under conditions which sets bounds to an absolute authority.

CAPITULUM, among botanists, the same with what is otherwise called *umbella*.

CAPIVI, or **COPIVI**. See **COPIVI**.

CAPNOMANCY, in antiquity, a kind of divination drawn from the smoke of sacrifices: when this was thin, light, and ascended in a straight line, it was deemed a good omen; and, if the contrary, an ill one.

CAPOC, a sort of cotton as soft as silk, so fine and so short that it cannot be spun. It is used in the East-Indies, as well as in Europe, to line palanquins, to make beds, mattresses, cushions, pillows, &c.

CAPON, a cock chicken, gelded as soon as left by the dam, or as soon as he begins

to crow. They are of use either to lead chickens, ducklings, pheasants, &c. and defend them from the kites and buzzards; or to feed for the table, they being reckoned more delicate than either a cock or a hen.

CAPON'S-TAIL GRASS, the same with the *festuca* of botanical writers. See the article **FESTUCA**.

CAPONIERE, or **CAPONNIERE**, a work sunk on the glacis of a place, about four or five feet deep: the earth that comes out of it serves to form a parapet of two or three feet high, made with loop-holes or small embrasures; it is covered overhead with strong planks, on which are laid clays, or hurdles, which support the earth which covers all. It holds fifteen or twenty men, who fire through these embrasures. They are also sometimes made in the bottom of a dry moat.

CAPPACIA, a town of the hither Principate, in the kingdom of Naples. It is a bishop's see, and situated about fifty-five miles south-east of the city of Naples: east longitude $15^{\circ} 20'$, and north latitude $40^{\circ} 40'$.

CAPPARIS, *caper*, in botany, a genus of the polyandria-monogynia class of plants, the corolla of which consists of four roundish, emarginated, open petals: the fruit is a carnosé, turbinated capsule, with only one cell, containing numerous kidney-shaped seeds. See plate XXXVI. fig. 3. and the article **CAPER**.

CAPRA, the **GOAT**, in zoology, constitutes a genus of quadrupeds, of the order of the *pecora*, distinguished from the other genera of this order, by their hollow, rough, and erect horns, which bend a little backwards.

Of this genus authors enumerate a great many species, as the common goat; the *rupicapra*, or chamois-goat; the *ibex*; the *gazella*; and several others: for a description of which, see the articles **GOAT**, **RUPICAPRA**, &c.

CAPRA, in astronomy, an appellation given to the star capella, and sometimes also to the constellation capricorn. See the articles **CAPELLA** and **CAPRICORN**.

CAPRA SALTANS, in meteorology, a fiery meteor, or exhalation, which sometimes appears in the atmosphere: the exhalation is not a straight line, but inflected, consisting of windings in and out, resembling the capering of a goat.

CAPRAIA, an island on the coast of Tuscany, about thirty miles south-west of

Leghorn; east long. 11° , and north lat. $43^{\circ} 15'$.

CAPRARIA, in botany, a genus of the didynamia-angiospermia class of plants, the flower of which consists of a single, concave petal, divided into four segments: the fruit is an oblong conic capsule, formed of two valves, and containing only one cell, where there are a great number of seeds of an oblong form.

CAPRAROLA, a town of St. Peter's patrimony, in Italy, about twenty miles north of the city of Rome, and eight south of Viterbo: east longit. 13° , and north latitude $42^{\circ} 30'$. It is a bishop's see.

CAPRI, or **CAPREA**, a city and island at the entrance of the gulph of Naples, about twenty miles south of that city: east longit. $14^{\circ} 50'$, and north latitude $40^{\circ} 45'$.

The island is only four miles long, and one broad; the city is a bishop's see, situated on a high rock, at the west end of the island.

CAPRICE, in music, a term applied to certain pieces, in which the composer gives a loose to his fancy, and not being confined either to particular measures, or keys, runs divisions according to his mind, without any premeditation.

CAPRICE, in architecture, an appellation given to buildings of a peculiar taste, and deviating from the received rules of that art.

CAPRICORN-BEETLE, the english name of a species of *cerambyx*, with antennæ somewhat resembling goat's horns. See plate XXXVI. fig. 4.

CAPRICORN, in astronomy, one of the twelve signs of the zodiac, represented on globes in the form of a goat, and characterised in books by this mark ♐.

It is the tenth sign in order, and contains twenty-eight stars, according to Ptolemy and Tycho Brahe; twenty-nine, according to Hevelius; and fifty-one, according to Flamsteed.

Tropic of CAPRICORN, a lesser circle of the sphere, which is parallel to the equinoctial, and at $23^{\circ} 30'$ distance from it southwards.

CAPRIFICATION, a method used in the Levant, for ripening the fruit of the domestic fig-tree, by means of insects bred in that of the wild fig-tree.

It is said that these figs will never come to maturity, unless wounded by the insects depositing their eggs. Possibly the reason

of this effect, may be their lacerating the vessels of the fruit, and thereby deriving thither a greater quantity of nutritious juice.

Plums and pears, wounded in the same manner, are found to ripen soonest, and the pulp about the wound has a more exquisite taste than the rest.

CAPRIMULGUS, the **GOAT-SUCKER**, in ornithology, a species of *hirundo*, with an undivided tail, and bristles at the mouth, erroneously called the churn-owl, or fern-owl. See the article **HIRUNDO**.

CAPRIOLES, in the manege, leaps that a horse makes in the same place, without advancing, in such a manner, that when he is at the height of the leap, he jerks out with his hinder legs even and near. It is the most difficult of all the high manege. It differs from a croupade in this, that in a croupade the horse does not shew his shoes; and from a ballotade, because in this he does not jerk out. To make a horse work well at caprioles, he must be put between two pillars, and taught to raise first his fore-quarters, and then his hind-quarters, while his fore are yet in the air, for which end you must give the whip, and the poinçon.

CAPSICUM, **GUINEA PEPPER**, in botany, a genus of the pentandria-monogynia class of plants, the flower of which is a rotated petal, with a short tube, a patent plicated limb, divided into five broad and sharp pointed segments: the fruit is a berry without pulp, approaching to an oval figure, with two hollow and coloured cells, containing numerous and compressed seeds, of a kidney shape. Guinea-pepper is more used as a sauce and pickle, than in physic.

CAPSQUARES, in gunnery, strong plates of iron which come over the trunnions of a gun, and keep it in the carriage. They are fastened by a hinge to the prize-plate, that they may lift up and down, and form a part of an arch, in the middle to receive a third part of the thickness of the trunnions: for two thirds are let into the carriage, and the other end is fastened by two iron wedges, called the forelocks and keys.

CAPSTAN, or **MAIN-CAPSTAN**, in a ship, a great piece of timber in the nature of a windlass, placed next behind the main-mast, its foot standing in a step on the lower deck, and its head between the upper decks; formed into several squares with holes in them. Its use is to weigh the anchors, to hoise up or strike

down top-masts, to heave any weighty matter, or to strain any rope that requireth a main force.

Jear **CASPAN** is placed between the main-mast and the mizen, and serves to strain any rope, heave upon the jear-rope or upon the viol, or hold off by at the weighing of an anchor.

CAPSTAN-BARS, the pieces of wood that are put into the capstan holes, to heave up any thing of weight into the ship.

Pawl of a **CAPSTAN**, a short piece of iron made fast to the deck, and resting upon the whelps, to keep the capstan from recoiling, which is of dangerous consequence.

Whelps of a **CAPSTAN** are short pieces of wood, made fast to it, to keep the cable from coming too nigh, in turning it about.

Pawling the **CAPSTAN**, is stopping it from turning by means of the pawl.

Come up **CAPSTAN**, or *launch out* the **CAPSTAN**, that is, slacken the cable which you heave by.

CAPSULATE, or **CAPSULATED PLANTS**, those furnished with capsules for the reception of their seeds.

CAPSULE, *capsula*, in a general sense, denotes a receptacle, or cover, in form of a bag.

CAPSULE, among botanists, a species of pericarpium, or seed-vessel, composed of several dry, elastic valves, which usually burst open at the points, when the seeds are ripe: it differs from a pod, in being roundish and short. See the article **POD**. This kind of pericarpium sometimes contains one cell or cavity, sometimes more: in the first case it is called unilocular, as it is bilocular, trilocular, &c. when it contains two, three, &c. cells or cavities.

CAPSULA, in chemistry, an earthen pan for holding things that are to undergo violent operations of the fire.

CAPSULA-COMMUNIS, in anatomy, called also *capsula Glissonii*, from its discoverer, is a tunic continuous with the peritonæum, and includes the branches of the vena porta and biliary ducts as they approach the liver, as well as within it.

CAPSULA-CORDIS. See **PERICARDIUM**.

CAPSULÆ ATRABILIARIÆ, called also *glandulæ renales*, and *renes succenturiati*, are two yellowish glands of a compressed figure, lying on each side of the upper part of the kidneys. They have a very narrow cavity, imbued with a brownish liquor of a sweetish taste. Their figure is irregular, between square, triangular, and

and oval. Their size also is various; but in adults, they are in general about the bigness of a large *nux vomica*. In the foetus, they are larger, and often exceed the kidneys themselves in size. The membrane that surrounds them is very thin: it closely involves their whole substance, and connects them with the kidneys. Their blood-vessels are sometimes sent from the aorta and the vena cava, but more frequently from the emulgents: their nerves are from the plexus renalis, and their lymphatic vessels are numerous. There is no excretory duct discovered in them, and their use is therefore not certainly known. By their great size in the foetus, they seem destined rather to the service of that state, than of any other.

CAPSULÆ SEMINALES, are the extreme parts of the vasa deferentia, which have their cavities dilated in manner of capsules. Their use is to transmit the semen from the testes to the vesiculæ feminales.

CAPTAIN, a military officer, whereof there are various kinds, according to their commands.

CAPTAIN of a troop or company, an inferior officer, who commands a troop of horse, or company of foot, under a colonel. In the same sense we say, captain of dragoons, of grenadiers, of marines, of invalids, &c.

In the horse and foot guards, the captains have the rank of colonels.

CAPTAIN general, he who commands in chief.

CAPTAIN lieutenant, he who with the rank of captain, but the pay of lieutenant, commands a troop or company in the name and place of some other person who is dispensed with on account of his quality from performing the functions of his post.

Thus the colonel, being usually captain of the first company of his regiment; that company is commanded by his deputy, under the title of captain-lieutenant.

So in England, as well as in France, the king, queen, dauphin, princes, &c. have usually the title of captains of the guards, *gens d'armes*, &c. the real duty of which offices is performed by captain-lieutenants.

CAPTAIN reformed, one who, upon the reduction of the forces, has his commission and company suppressed; yet is continued captain, either as second to another, or without any post or command at all.

CAPTAIN of militia, he who commands a company of the militia, or trained bands. See the article **MILITIA**.

CAPTAIN of a ship of war, the commanding officer of a ship, galley, fire-ship, or the like. This officer ranks with a colonel in the land service.

CAPTAIN of a merchant ship, he who has the direction of the ship, her crew, and lading, &c. In small ships and short voyages, he is more ordinarily called the master. In the Mediterranean, he is called the patron.

The proprietor of the vessel appoints the captain or master, and he is to form the crew, and choose and hire the pilots, mates, and seamen; though, when the proprietor and master reside on the same spot, they generally act in concert together.

CAPTAIN BASHAW, or **CAPONDAN BASHAW**, in the polity of the Turks, signifies the turkish high admiral. He possesses the third office of the empire, and is invested with the same power at sea, that the vizir has on shore. Solymán II. instituted this office in favour of the famous Barbarossa, with absolute authority over the officers of the marine and arsenal, whom he may punish, cashier, or put to death, as soon as he is without the Dardanelles. He commands in chief in all the maritime countries, cities, castles, &c. and, at Constantinople, is the first magistrate of police in the villages on the side of the Porte, and the canal of the Black Sea. The mark of his authority is a large indian cane, which he carries in his hand, both in the arsenal and with the army.

The captain-bashaw enjoys two sorts of revenues; the one fixed, the other casual. The first arise from a capitation of the islands in the Archipelago, and certain governments in Natolia and Galipoli. The latter consist in the pay of the men, who die during a campaign; in a fifth of all prizes, made by the begs; in the profits accruing from the labour of the slaves, whom he hires as rowers to the grand signior; and in the contributions he exacts in all places where he passes.

CAPTAINRY, in the french customs, the office of keeper of a roval palace, or ranger of a chace, forest, &c.

CAPTION, in law, is where a commission is executed, and the commissioners subscribe their names to a certificate, declaring when and where the commission was executed. It relates chiefly to commissions,

missions, to take answers in chancery, and depositions of witnesses, and take fines of lands, &c.

CAPTION and **HORNING**, in the law of Scotland. When a decreet or sentence is obtained against any person, the obtainer thereof takes out a writ, whereby the party decerned is charged to pay or fulfil the will of the decreet, under the pain of rebellion: this writ is called letters of horning. If he refuse to comply, then the writ or letters of caption may be raised, whereby all the inferior judges and magistrates are commanded to assist in apprehending the rebel, and putting him in prison.

CAPTIVE, a slave or person taken by the enemy in war, or by a pirate or corsair. See the articles **SLAVE** and **PIRATE**.

The Romans led their captives in triumph, and, by the cornelian law, the latter wills of those Romans, who died in the hands of an enemy, were confirmed in the same manner, as if they had been free, although that will had been made, before the person marched out of the city to war.

Captive, in modern history, more particularly denotes a christian slave, taken by the piratical states of Barbary.

The fathers of la Merce and the Mathurins in France are employed in redeeming these captives; and, in England, a statute was made for the relief of captives, taken by turkish and other pirates, in 16 and 17 of Car. II.

CAPTIVITY, a punishment which God inflicted upon his people, for their vices and infidelities. The first of these captivities is that of Egypt, from which Moses delivered them; after which, are reckoned six during the government of the judges: but the greatest and most remarkable, were those of Judah and Israel, which happened under the kings of each of these kingdoms. It is generally believed, that the ten tribes of Israel never came back again after their dispersion; and Josephus and St. Jerom are of this opinion: nevertheless, when we examine the writings of the prophets, we find the return of Israel from captivity pointed out in a manner, almost as clear as that of the tribes of Benjamin and Judah. See Hosea i. 10, xi. 12. Amos ix. 14. Isaiah xi. 13 and 14. Ezekiel xxxvii. 16, &c.

The captivities of Judah are generally reckoned four; the fourth and last of which fell out in the year of the world 3416

under Zedekiah; and from this period began the seventy years captivity, foretold by Jeremiah.

Since the destruction of the temple by the Romans, the Hebrews boast, that they have always had their heads, or particular princes, whom they call princes of the captivity, in the east and west. The princes of the captivity in the east governed the Jews, who dwelt at Babylon, in Chaldæa, Assyria and Persia; and the prince of the captivity in the west governed those, who dwelt in Judæa, Egypt, Italy, and in other parts of the roman empire. He, who resided in Judæa, took up his abode commonly at Tiberias, and assumed the title of Roschabboth, head of the fathers or patriarchs. He presided in assemblies, decided in cases of conscience, levied taxes for the expences of his visits, and had officers under him, who were dispatched through the provinces, for the execution of his orders. As to the princes of the captivity of Babylon, or the east, we know neither the original nor succession of them; it appears only, that they were not in being before the end of the second century.

CAPTURE signifies, particularly, prizes taken by privateers, in time of war, which are to be divided between the captors. See the article **PRIZE**.

CAPUA, a city of the province of Lavo-ro, in the kingdom of Naples, situated on the river Volturno, about fifteen miles north-west of the city of Naples; east long. 15°, and north lat. 41° 20'. It is the see of an archbishop.

CAPUCHINS, in the church of Rome, the same with franciscans. See the article **FRANCISCANS**.

CAPUT, the **HEAD**, in anatomy. See the article **HEAD**.

CAPUT DRACONIS, the **DRAGON'S HEAD**, in astronomy, the ascending node of the moon. See the article **NODE**.

Caput draconis is also a star of the first magnitude, in the head of the constellation draco. See the article **DRACO**.

CAPUT GALLINAGINIS, in anatomy, a kind of septum, or spongy border at the extremities of the apertures of each of the vesiculæ seminales, serving to hinder the seed, coming from one side, from rushing upon, and so stopping the discharge of the other.

Some will have its use to be, to prevent the impulse of the seed from dilating the orifices of the vesiculæ, and so ouzing out, except when assisted by the compression

fon of the furrounding parts, as in copulation; but this, according to others, is rather the office of a distinct caruncle, placed at each orifice, and acting as a valve.

CAPUT MORTUUM, in chemistry, that thick, dry matter, which remains after distillation of any thing, but of minerals especially.

It very frequently denotes only that which remains of vitriol in its distillation, which they call *colcothar vitrioli*. The *caput mortuum*, though in some cases there be but little, if any active principle left in it, yet it is never pure: and the *colcothar vitrioli*, if exposed to the air, will turn to vitriol again. The *caput mortuum*, called also *terra damnata*, is found in form of a friable, porous matter, without taste or smell: it is ranked among the chemical elements, and supposed to constitute the dry, fixed, earthy, and solid part of all bodies whatever. It is what the chemists call a passive element or principle, serving as the basis or support of the active ones.

CAPY-BARA, in zoology, the thick-headed hippopotamus, with no tail: it is a native of Brasil, and called *porcus fluviatilis*, the river-hog, from the resemblance it bears to the hog-kind. See the article **HIPPOPOTAMUS**.

CAR, or **CARR**. See the article **CARR**.

CARABINE, a fire-arm, shorter than a musket, carrying a ball of twenty-four in the pound, borne by the light horse, hanging at a belt over the left shoulder. The barrel is two feet and a half long, and is sometimes furrowed spirally within, which is said to add to the range of the piece.

CARABINEERS, or **CARABINIERS**, regiments of light horse, carrying longer carabines than the rest, and used sometimes on foot.

CARABUS, in zoology, a genus of four-winged flies, the antennæ of which are oblong, slender, and setaceous; and the thorax is somewhat convex, margined, of a cordated figure, and truncated in the hinder part.

Authors enumerate a great many species of this insect, distinguished by their different colours, and other peculiarities.

CARACAO, or **CARASSOW**, a town on the coast of Terra Firma, in South America; west long. 67°, north lat. 10° 10'.

CARACARA, in zoology, a brasilian species of falco, the back of which is of a

pale-brown colour, variegated in an elegant manner with spots of white and yellow. See the article **FALCO**.

This is one of the most beautiful of the hawk kind: it is about the bigness of a tame pigeon; the head is small, the beak is broad at the base, but short, and considerably hooked; the tail is long and beautifully fasciated, with transverse broad lines, of white and brown, placed in an alternate order. See plate XXXVI. fig. 6.

CARACOL, in the manege, the half turn which a horseman makes, either to the right or left.

In the army, the horse always make a caracol after each discharge, in order to pass to the rear of the squadron.

CARACOL, in architecture, denotes a staircase in a helix or spiral form.

CARACOLI, a fictitious metal, of which the natives of the Caribbee islands, or the lesser Antilles, make a sort of ornament in the form of a crescent, which they also call *caracoli*.

This metal comes from the main land; and the common opinion is, that it is a compound of silver, copper and gold, something like the corinthian brass among the antients. These metals are so perfectly mixed and incorporated together, that the compound which results from them, it is said, has a colour that never alters, how long soever it remains in the sea, or under ground. It is something brittle, and they who work at it, are obliged to mix a large proportion of gold with it, to make the compound more tough and malleable.

CARACT, **CARAT**, **CARRAT**, the name of that weight which expresses the degree of fineness that gold is of.

The mint-master, or custom, have fixed the purity of gold at 24 caracts; though it is not possible so to purify and refine that metal, but it will want still about one fourth part of a caract in absolute purity and perfection. The caract is divided into $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{12}$, and $\frac{1}{24}$. These degrees serve to distinguish the greater or lesser quantity of alloy therein contained: for instance, gold of 22 caracts, is that which has two parts of silver, or of any other metal, and 22 of fine gold.

CARACT is also a certain weight which goldsmiths and jewelers use wherewith to weigh precious stones and pearls.

This caract weighs four grains, but something lighter than the grains of other weights.

weights. Each of these grains is subdivided into $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, &c.

CARAITES, in the ecclesiastical history of the Jews, a religious sect among that people, who adhere closely to the text and letter of the scriptures, rejecting the rabbinical interpretations, and the cabala.

The caraites pass for the most learned of the Jewish doctors; they are chiefly to be met with in Poland, Muscovy, and the east: they are but few in comparison of the bulk of the Jews, who are of the party of the rabbins: the latter have so great an aversion for the caraites, that they will have no alliance, nor even conversation, with them: they treat them as bastards; and if a caraites would turn rabbinist, the other Jews would not receive him. See the article **CAEBALA**.

CARAMANIA, a province of Natolia, in Asia, situated on the Mediterranean sea, opposite to the island of Cyprus.

CARAMANTA, the name of a province of South America, bordered on the north by the district of Carthagená; on the east, by new Grenada; and on the south and west, by Popayan.

This is also the name of the capital of that province, situated in $5^{\circ} 18'$ north lat.

CARANNA, a vegetable production, whose inflammability and solubility in oil, prove it to be truly a resin, though some call it a gum.

It is brought to us principally from New Spain, and is to be chosen clean, of a dark colour, and bitterish taste.

This resin affords, by distillation, a fine odoriferous oil, which is esteemed, as well as the resin itself, a very powerful external remedy, in cases of pain, tumours, and wounds of the nerves. It is even used by some in the gout and sciatica. It is made into a plaster, with the addition of Chio-turpentine, and oil of mace, which is applied to the stomach in cases of indigestions, and to the head for the cure of inveterate pains there.

CARAVAN, or **CARAVANNE**, in the east, signifies a company or assembly of travellers and pilgrims, and more particularly of merchants, who for their greater security, and in order to assist each other, march in a body through the deserts, and other dangerous places, which are infested with Arabs, or robbers.

There is a chief, or aga, who commands the caravan, and is attended by a certain number of janasaries, or other militia, according to the countries from whence the

caravans set out; which number of soldiers must be sufficient to defend them, and conduct them, with safety, to the places for which they are designed, and on a day appointed. The caravan encamps every evening near such wells or brooks, as their guides are acquainted with; and there is a strict discipline observed upon this occasion, as in armies in time of war. Their beasts of burden are partly horses, but most commonly camels, who are capable of undergoing a very great fatigue.

The grand signior gives one fourth of the revenues of Egypt to defray the expence of the caravan that goes yearly to Mecca to visit Mahomet's tomb: the devotees in this caravan are from forty to seventy thousand, accompanied with soldiers to protect them from the pillage of the arabs, and followed by eight or nine thousand camels, laden with all necessary provisions for so long a passage across deserts.

CARAVAN is also used for the voyages or campaigns which the knights of Malta are obliged to make at sea against the Turks and Corsairs, that they may arrive at the commandaries or dignities of the order.

The reason of their being thus called, is because the knights have often seized the caravans going from Alexandria to Constantinople.

CARAVANIER, a person who leads the camels, and other beasts of burden, who are commonly used in the caravans in the East.

CARAVANSERA, or **KARAVANSERA**, a large public building, or inn, appointed for receiving and lodging the caravans. It is commonly a large square building, in the middle of which there is a very spacious court; and under the arches or piazzas that surround it, there runs a bank, raised some feet above the ground, where the merchants, and those who travel with them in any capacity, take up their lodgings, as well as they can: the beasts of burden being tied to the foot of the bank. Over the gates, that lead into the court, there are sometimes little rooms, which the keepers of the caravanseras let out, at a very high price, to such as have a mind to be private.

The caravanseras in the east, are something in the nature of the inns in Europe, only that you meet with little accommodation either for man or beast, but are obliged to carry almost every thing with

you : there is never a caravanfera without a well, or spring of water. These build-ings are chiefly owing to the charity of the mahometans : they are esteemed sac-cred dwellings, where it is not permitted to insult any person, or to pillage any of the effects that are deposited there. They even carry their precautions so far, as not to suffer any man who is not married to lodge there ; because they are of opinion, that a man who has no wife, is more dangerous than another.

CARAVANSERASKIER, the steward, or keeper of a caravanfera.

He keeps an account of all the merchan-dizes that are sold upon trust, and de-mands the payments of the sums due to the merchants, for what has been sold in the caravanfera, on the seller's paying two *per cent*.

CARAWAY, or **CARRAWAY**, the eng-lish name of the carum of botanists. See the article **CARUM**.

CARBUNCLE, in natural history, a very elegant gem, whose colour is deep red, with an admixture of scarlet.

This gem was known among the an-tients by the name of anthrax. It is usually found pure and faultless, and is of the same degree of hardness with the sapphire : it is naturally of an angular figure, and is found adhering, by its base, to a heavy and ferrugineous stone of the emery-kind : its usual size is near a quarter of an inch in length, and two thirds of that in diameter in its thickest parts : when held up against the sun, it loses its deep tinge, and becomes exactly of the colour of a burning charcoal, whence the propriety of the name which the antients gave it. It bears the fire unaltered, not parting with its colour, nor becoming at all the paler by it. It is only found in the East-Indies, so far as is yet known, and there but very rarely.

CARBUNCLE, or **ANTHRAX**, in surgery, an inflammation which arises, in time of the plague, with a vesicle or blister, al-most like those produced by burning. This inflammation, for the most part, terminates in a sphacelus, and putrifies the subjacent parts down to the bone, they becoming as black as a coal. A carbuncle always breaks out very speedi-ly, even in the space of an hour or two, attended with heat and pain : as soon as it is opened, it discharges a livid sanies, or sometimes a limpid water : it is black within, which is a sign that the sphacelus has seized the subjacent parts, and is

making its progress : but the putrid flesh in those who recover, suppurates, and parts from the sound. The size of these pestilential blisters is various, more or less ; as is also their number in the pati-ent ; for there is no part of the body which they do not infest, and they gene-rally appear in company with bubos. See the article **BUBO**.

These carbuncles which arise in the face, neck, breast, or armpits, are observed to be of the worst kind, for they generally kill the patient. As to the internal treat-ment of carbuncles, the very same is to be observed in this case, as has been re-commended under the article *pestilential* **BUBOS**.

In the external treatment, some of the modern physicians use only scarification in this case, with very good success ; others only open the eruptions with a pair of scissars, and having discharged the matter, they frequently wash the car-buncle with *sp. vin. camph.* or *sp. vin.* wherein has been digested a little theriaca : they afterwards apply a maturing cata-plasm, which is to be continued till the carbuncle separates from the sound parts ; then they cut it out all at once.

CARBUNCLE, in heraldry, a charge or bear-ing, consisting of eight radii, four where-of make a common cross, and the other four a saltier.

Some call these radii buttons, or staves, because round, and enriched with but-tons, or pearled like pilgrims staves, and frequently tipped or terminated with flower-de-luces : others blazon them, royal sceptres, placed in saltier, pale and fesse.

CARCASE, *cadaver*, the body of a dead animal, especially a brute ; that of the human species being called corps.

It is well known, that flesh, as well as blood, is specifically heavier than water ; and yet dead bodies, after lying some time at the bottom, are always found to float : a circumstance undoubtedly owing to air generated in the bowels by putre-faction, whereby the body is buoyed up. See the articles **FERMENTATION** and **PUTREFACTION**.

CARCASE, in architecture, the shell or ribs of a house, containing the partitions, floors, and rafters, made by carpenters ; or it is the timber-work (or as it were the skeleton) of a house, before it is lathed and plastered : it is otherwise called the framing.

CARCASSE, or **CARCUSS**, in the art of war,

war, an iron-case or hollow capacity, about the bigness of a bomb, of an oval figure, made of ribs of iron, filled with combustible matters, as meal powder, salt-petre, sulphur, broken glass, shavings of horns, turpentine, tallow, &c. the design of it is to be thrown out of a mortar to set houses on fire, and do other execution. It has two or three apertures through which the fire is to blaze.

CARCASSONE, a town of Languedoc, in France, situated on the river Arde, about twenty-five miles west of Narbonne: east long. 2° , north lat. $43^{\circ} 20'$.

It is a bishop's see.

CARCERES, in the antient circensian games, were inclosures, in the circus, wherein the horses were restrained till the signal was given for starting, when, by an admirable contrivance, they all at once flew open.

CARCINOMA, *καρκινωμα*, among physicians, the same with cancer. See the article **CANCER**.

CARCUSS, or **CARCASSE**. See the article **CARCASSE**.

CARD, among artificers, an instrument consisting of a block of wood, beset with sharp teeth, serving to arrange the hairs of wool, flax, hemp, and the like: there are different kinds of them, as hand-cards, stock-cards, &c.

CARDS, among gamesters, little pieces of fine thin pasteboard of an oblong figure, of several sizes, but most commonly in England three inches and an half long, and two and an half broad, on which are painted several points and figures.

The moulds and blocks for making cards, are exactly like those that were used for the first books: they lay a sheet of wet or moist paper on the block, which is first slightly done over with a sort of ink made with lamb-black diluted in water, and mixed with some starch to give it a body. They afterwards rub it off with a round list. The court-cards are coloured by means of several patterns, stiled stane-files. These consist of papers cut through with a pen-knife, and in these apertures, they apply severally the various colours, as red, black, &c. These patterns are painted with oil-colours, that the brushes may not wear them out; and when the pattern is laid on the pasteboard, they slightly pass over it a brush full of colour, which, leaving it within the openings, forms the face or figure of the card.

Cards, upon sufficient security, may be

exported without payment of the stamp duty; but for every pack sold without the label of the stamp office, in England, there is a penalty of 10 l.

CARDAMINE, **LADY'S SMOCK**, in botany, a genus of the tetradynamia-silicquosa class of plants, the corolla of which, consisting of four petals, is cruciform: these petals are oval, oblong, open, and terminating in erect ungues of double the length of the cup: the fruit is a long pod, of a compressed, cylindric shape, composed of two valves, and containing two cells, wherein are several roundish seeds.

CARDAMOM, *cardamomum*, in the materia medica, is distinguished into three kinds, exclusive of the amomum, which is evidently of the cardamom kind. They are called by the names of the great cardamom, or grain of paradise; the long or middle cardamom, and the lesser common cardamom of the shops.

The great cardamom is a large and oblong fruit, in shape and size much resembling a common fig, as growing on the tree, and not ripe: the seeds are smaller than pepper-corns, of an irregular angular figure; but the plant is not known. The fruit of the middle cardamom is of an oblong and triangular figure, containing three distinct cells, wherein are seeds of an oblong, angular, and irregular form: the plant producing this seed, is said to be of the same genus with the small or common cardamom.

The fruit of the lesser cardamom is short, and of a trigonal form. It has three cells, containing seeds much like those of the middle cardamom.

This cardamom assists digestion, and strengthens the head and stomach: it is also a diuretic and carminative, and promotes the menses. It is seldom prescribed alone, unless for chewing, at the person's discretion.

CARDIA, in natural history, a genus of shell fish, the shell of which is formed of two ovals, and resembles the figure of a heart at cards: the valves are equal and gibbous.

Of this genus there are several species, some nearly globose, others of a triangular figure, and others irregularly oblong. Under this genus are comprehended the cockles, ark shells, &c. together with the *peelines inauriti*, or scallops without ears, as they are called. See the articles

COCKLE, **SCALLOP**, &c.

CARDIAC, an appellation given to such medicines

medicines as preserve or increase the strength of the heart, and by that means the vital forces, though they do not immediately work upon the heart, nor are particularly appropriated to the corroboration of that part. This effect they perform either by replenishing the exhausted vessels with good humours, or exciting motion where it is required. Therefore nutritives duly chosen with respect to particular constitutions, belong to this class, as well as astringent corroboratives and stimulants. All the modern dispensaries are full of cardiacs or cordials, both of the dry and liquid kind; but the best are those which remove the disorder, of which lowness of spirits is the consequence; and next to these is wine, which administered in proper quantities, and more or less diluted as circumstances require, will generally answer better purposes than more pompous cordials, whilst it is less capable of doing mischief.

CARDIACUS PLEXUS, in anatomy, a plexus or piece of net-work, formed of a ramification of the par vagum, or eighth pair of nerves.

CARDIALGIA, the **HEART-BURN**, in medicine, a disorder of the stomach attended with anxiety, a nausea, and often a reaching or actual vomiting.

The causes of this disorder, are either vitiated humours in the stomach, which occasion a nausea and vomiting, or in the common heart-burns, wind, indigestion, and now and then worms. But more frequently a cardialgia proceeds from congestions of blood about the stomach, which happen to those who are full of blood, but more especially to hypochondriac and hysterical persons.

The cure of a common heart-burn from indigestion, and the acrimony of the contents of the stomach, may be performed by drinking tea, or a decoction of camomile flowers; as also by taking biters, or the testaceous and absorbent powders. When it arises from a cramp, gentle emetics will be useful; and if it proceeds from a congestion of blood, bleeding will be convenient, after which antispasmodics are to be given.

If it is occasioned by acute stomachic fevers, rhubarb or ipecacuanha, in a moderate dose, may be prescribed; and if by worms, it must be treated with medicines proper for killing worms.

CARDIFF, a borough-town of Glamorganshire, in south Wales, situated on the river Tawe, about two miles south-east

of Landaff; west longitude $3^{\circ} 20'$, north latitude $51^{\circ} 30'$.

It sends only one member to parliament.

CARDIGAN, the capital of Cardiganshire, near the mouth of the river Tivy and the Irish channel, about thirty miles north of Pembroke; west long. $4^{\circ} 40'$, north lat. $52^{\circ} 15'$.

It gives the title of earl to the noble family of Brudenel, and sends only one member to parliament.

CARDINAL, in a general sense, an appellation given to things on account of their preeminence: thus we say, cardinal winds, cardinal virtues, &c.

The cardinal virtues are these four, justice, prudence, temperance, and fortitude, upon which all the rest hinge.

CARDINAL POINTS, in cosmography, are the four intersections of the horizon with the meridian, and the prime vertical circle. See the article **POINT**.

Of these two, *viz.* the intersections of the horizon and meridian are called north and south, with regard to the poles they are directed to. See the article **MERIDIAN**.

The other two, *viz.* the intersections of the horizon and first vertical, are called east and west. The cardinal points therefore coincide with the four cardinal regions of the heavens, and are 90° distant from each other. The intermediate points are called collateral points.

CARDINAL POINTS of a nativity, are the rising and setting of the sun, the zenith and nadir.

CARDINAL WINDS, these that blow from the cardinal points.

CARDINAL SIGNS in the zodiac, are Aries, Libra, Cancer, and Capricorn.

CARDINAL NUMBERS, in grammar, are the numbers, one, two, three, &c. which are indeclinable, in opposition to the ordinal numbers, first, second, third, &c. See the article **NUMBER**.

CARDINAL, more particularly, signifies an ecclesiastical prince in the romish church, being one who has a voice in the conclave at the election of a pope. The cardinals were originally nothing more than deacons, to whom was intrusted the care of distributing the alms to the poor of the several quarters of Rome; and as they held assemblies of the poor in certain churches of their several districts, they took the title of these churches. They began to be called cardinals in the year 300, during the pontificate of St. Sylvester, by which appellation was meant the



Fig. 1. CARDUS, THISTLE.



Fig. 2. CARIGUEIA.



Fig. 3. CARLINE THISTLE.



Fig. 4. CARTHAMUS.



Fig. 5.

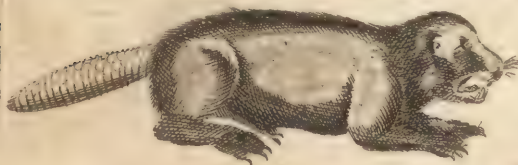
CARYOPHYLLUS.



Fig. 6. CASSOWARY.



Fig. 7. CASTOR, BEAVER.



the chief priests of a parish, and next in dignity to a bishop. This office grew more considerable afterwards, and by small degrees arrived at its present height, in which it is the reward of such as have served his holiness well, even princes thinking it no diminution of their honour, to become members of the college of cardinals.

The cardinals compose the pope's council, and till the time of Urban VIII. were stiled *most illustrious*; but by a decree of that pope in 1630, they had the title of *eminence* conferred upon them.

At the creation of a new cardinal, the pope performs the ceremony of shutting and opening his mouth, which is done in a private consistory. The shutting his mouth, implies the depriving him of the liberty of giving his opinion in congregations; and the opening his mouth, which is performed fifteen days after, signifies the taking off this restraint. However, if the pope happens to die during the time a cardinal's mouth is shut, he can neither give his voice in the election of a new pope, nor be himself advanced to that dignity.

The cardinals are divided into six classes or orders, consisting of six bishops, fifty priests, and fourteen deacons, making in all seventy; which constitute the sacred college. The number of cardinal-bishops has very seldom been changed, but that of priests and deacons, have varied at different times.

The privileges of the cardinals are very great: they have an absolute power in the church during the vacancy of the holy see: they have a right to elect the new pope, and are the only persons on whom the choice can fall: most of the grand offices in the court of Rome, are filled by cardinals. The dress of a cardinal is a red soutanne, a rochet, a short purple mantle, and the red hat. When they are sent to the courts of princes, it is in quality of legates *a latere*; and when they are appointed governors of towns, their government is called by the name of legation.

CARDINAL is also a title given to some bishops, as those of Mentz and Milan, to the archbishop of Bourges; and the abbot of Vendome calls himself *cardinalis natus*.

CARDINAL is likewise a title applied to secular officers. Thus the prime ministers in the court of the emperor Theodosius, were called *cardinales*.

CARDING, the combing and preparing of wool, cotton, flax, &c. with the instruments called cards. See CARD.

Before wool be carded, it must be greased with oil, of which one fourth part of the weight of the wool is required for that which is designed for making the woof of stuffs, and the eight part for that of the warp.

CARDIOID, in the higher geometry, an algebraical curve, so called from its resemblance to a heart; for the description and properties of which, see the Philosophical Transactions, N^o 461.

CARDIOSPERMUM, in botany, a genus of the octandria-trigynia class of plants, the flower of which consists of four petals, and is cruciform; the fruit is a roundish trilobular capsule, containing a single cordated seed.

CARDO, in anatomy, a name given to the second vertebra of the neck. See the article AXIS.

CARDONNA, a city of Catalonia, in Spain, situated on a river of the same name, about forty miles north-west of Barcelona; east longitude 1° 20', north latitude 41° 35'.

CARDUEL, a province of Georgia, in Asia, lying between the Caspian and Euxine seas, the capital whereof is Teflis. It belongs partly to the Turks, and partly to the Persians.

CARDUUS, the THISTLE, in botany, a genus of the syngenesia-polygamia-aqualis class of plants, the compound flower of which is tubulous and uniform, the proper flower is monopetalous, of a funnel form, with a very small tube and erect limb, and divided into five linear equal segments. There is no pericarpium, but the cup is a little connivent, and contains solitary, vertically-ovated, quadrangular seeds, with two opposite angles obliterated, and crowned with a very long down. See plate XXXVII. fig. 1.

CARDUUS BENEDICTUS, in the materia medica, a species of the carduus, which has been celebrated by the writers of the earlier ages as alexiterial, sudorific and cordial. At present, however, the greatest use made of it, is by way of infusion, for working off an emetic. The seeds have been recommended in emulsions, for promoting the eruptions of the pustules in the small-pox; and the simple water in the shops, being found to have little or nothing of the virtues of the plant, has been of late wholly disused.

CARDUUS FULLONUM, a name by which the

the dipsacus, or teazel, is sometimes called. See the article **DIPSACUS**.

CAREENING, in the sea-language, the bringing a ship to lie down on one side, in order to trim and caulk the other side. A ship is said to be brought to the careen, when the most of her lading being taken out, she is hauled down on one side by a small vessel as low as necessary; and there kept by the weight of the ballast, ordnance, &c. as well as by ropes, left her masts should be strained too much; in order that her sides and bottom may be trimmed, seams caulked, or any thing that is faulty under water, mended. Hence when a ship lies on one side when she sails, she is said to sail on the careen.

CAREER, in the manege, signifies the ground that is proper for the manege, and the course or race of a horse that does not go beyond two hundred paces.

In the antient circus, the career was the space the chariots were to run at full speed to carry the prize. See the article **CIRCUS**.

CARELIA, in geography, a province of Finland, bounded by the province of Savolaxia on the north, and by the gulph of Finland on the south. It is subject to Russia.

CARELSCROON, a port-town of the province of Gothland, in Sweden, situated on the coast of the Baltic; east long. 15° , and north latitude $56^{\circ} 20'$. It is an excellent harbour, where the Swedes lay up their royal navy.

CARENTAN, a town of Normandy, in France, situated at the mouth of a river of the same name; west longitude $1^{\circ} 15'$, and north latitude $49^{\circ} 20'$.

CARESEN, or **CASSEEN**, a sea-port town of Arabia Felix, situated on the Indian ocean; east longitude 52° , and north latitude 16° .

CARET, among grammarians, a character marked thus \wedge , signifying that something is added on the margin, or interlined, which ought to have come in where the caret stands.

CAREX, in botany, a genus of the monocia-triandria class of plants: in the male flower, there is no corolla; in the female, there are no petals; but the nectarium is of an ovato-oblong form, inflated, bidentated at the top: there is no pericarpium; but the nectarium, growing large, contains a single ovato-acute triquetrous seed, with one of its angles less than the rest.

CARGADORS, a name which the Dutch

give to those brokers, whose business is to find freight for ships outward bound, and to give notice to the merchants, who have commodities to send by sea, of the ships that are ready to sail, and of the places for which they are bound.

CARGAPOL, or **KARGAPOL**, the capital of a territory of the same name, in the province of Dwina, in Muscovy; east longitude 36° , and north latitude 63° .

CARGO denotes all the merchandizes and effects which are laden on board a ship, exclusive of the crew, rigging, ammunition, provisions, guns, &c. though all these load it sometimes more than the merchandizes.

We say that a ship has its cargo, when it is as full of merchandize as it can hold; that it has half its cargo, when it is but half full; that it brings home a rich cargo, when it is laden with precious merchandize, and in great quantity; that a merchant has made the whole cargo of the ship, or only one half, or one quarter of the cargo, when he has laden the whole ship at his own expence, or only one half, or one fourth of it.

Disposing of any part of the cargo, before the vessel reaches her intended port, is called breaking bulk. See the article **BREAKING BULK**.

Super-CARGO, a person employed by merchants to go a voyage, and oversee the cargo, and dispose of it to the best advantage.

CARIATI, a town of the hither Calabria, in Italy; situated on the gulph of Tarento; east longitude $17^{\circ} 20'$, and north latitude $39^{\circ} 20'$.

It is a bishop's see.

CARIBBE-ISLANDS, a cluster of islands, situated in the Atlantic ocean, between 59° and 63° west longit. and between 11° and 18° north lat.

CARIBBIANA, or **CARIBIANA**, the north-east coast of Terra-firma, in south America, otherwise called New-Andalusia. See the article **ANDALUSIA**.

CARICA, the **PAPAW-TREE**, in botany, a genus of the dioecia-decandria class of plants, the male flower of which is monopetalous, of a funnel-form, with a limb divided into five lanceolato-linear, obtuse, obliquely spiral segments: the female flower is pentapetalous, the petals being lanceolato-linear, obtuse on both sides, very long, erect below the middle, but above the middle bending outwards and downwards: the fruit is a very large berry, angulated with five furrows, hav-

ing

ing one cell, and containing numerous, ovated, sulcated, and tunicated seeds.

CARICA is also a name used by medical writers for the fruit of the fig-tree. See the articles **FIG** and **FIGUS**.

CARICATURA, in painting, denotes the concealment of real beauties, and the exaggeration of blemishes, but still so as to preserve a resemblance of the object.

CARICOUS, an epithet given to such tumours as resemble the figure of a fig. They are frequently found in the piles.

CARIES, in surgery; the corruption of a bone, when it is deprived of its periosteum, and having lost its natural heat and colour, becomes fatty, yellow, brown, and at last black.

A caries may be distinguished into two sorts, the first, where the disorder begins in the internal part of the bone. See the article **SPINA VENTOSA**.

The other, when it begins on the outside, or from an external cause.

We find two causes of the caries of a bone, one arising from a wound, or any other accident, when the bone is exposed to the injuries of the external air, or is corrupted by unskilfulness in dressing; the other, when the fluids are interrupted in their circulation, by any external violence, or internal cause whatsoever, from whence inflammation and suppuration succeed; by which the periosteum and bone losing their nourishment, on account of the vessels being inflamed and corrupted, quickly becomes carious; or from venereal causes. Hence it appears that there are several degrees of a caries of the bone, but the worst kind is that which falls upon the joints, or any parts of the bone that lie deep, because as there is no access to clean it, the case admits of no remedy but amputation of the limb. With regard to the cure of a caries, the mildest method is applied to the slightest degree, and is performed by the application of spirituous remedies, or by balsamics. In a caries that penetrates somewhat deeper, stronger remedies take place, such as the pulvis euphorbii cum spiritu vini optimo parato, aqua phagedænica, or a solution of mercury in aqua fortis, or spirit of nitre; and when by these you have procured an exfoliation of the diseased part, the cure is to be completed with balsamics. A second method consists in perforating the bone, after it is laid bare with an instrument; after which it is to be dressed with dry lint, or balsamic medicines. A third method is performed by scraping

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away the vitiated part of the bone with a raspatory, or chissel, till all the corrupted parts being destroyed, the bone appears white or ruddy, and sound. See the article **TREPANNING**.

The fourth, which is the most ancient and most certain method of cure, especially in the greater degrees of this disorder, is performed by burning down the vitiated part of the bone with the actual cautery; and in this operation great care must be taken not to injure the flesh, or other soft parts that lie near it. In fine, the principal business in curing a caries of the bone consists in a speedy extirpation of the carious parts of the bone, and the rest of the cure is performed in the same manner as other ulcers are treated.

CARIGNAN, a fortified town of Piedmont, situated on the river Po, about seven miles south of Turin; east longit. $7^{\circ} 25'$, and north lat. $44^{\circ} 30'$.

CARIGUEIA, or **CARIGOI**, in zoology, a species of opossum. See plate XXXVII; fig. 2. and the article **OPOSSUM**.

CARINA properly denotes the keel of a ship. See the article **KEEL**.

CARINA, in architecture, a name given by the Romans to all buildings in the form of a ship (from *carina*, the keel of a ship), as we still use the word nave for *navis*, a ship, the middle or principal vault of our churches, because it has that figure.

CARINA, in anatomy, a term used for the fibrous rudiments, or embryo of a chick, appearing in an incubated egg.

The carina consists of the intire vertebræ, as they appear after ten or twelve days incubation.

CARINA, in botany, the lowest petal of a papilionaceous flower. See the article **PAPILIONACEOUS**.

CARINTHIA, a dutchy in the circle of Austria, in Germany, bounded by the archbishops of Salzburg on the north, and by Carniola and the dominions of Venice on the south.

It is subject to the house of Austria.

CARIONOLA, a city of the province of Lavoro, in the kingdom of Naples, about twenty miles north of the city of Naples: east long. 15° , and north lat. $41^{\circ} 20'$. It is a bishop's see.

CARIPI, a kind of cavalry in the turkish army.

The caripi, to the number of about one thousand, are not slaves, nor bred up in the seraglio, like the rest, but are generally moors, or renegado christians, who, having followed adventures, and being poor,

poor, and having their fortune to seek by their dexterity and courage, have arrived to the rank of horse guards to the grand signior.

CARISBROOK-CASTLE, a castle situated in the middle of the isle of Wight, where king Charles I. was imprisoned: west long. $1^{\circ} 30'$, and north lat. $50^{\circ} 50'$.

CARLINA, the **CARLINE-THISTLE**, in botany, a genus of the *syngenesia-polygamia-æqualis* class of plants: the compound flower is uniform and tubulose; the partial flower consists of a single funnel-fashioned petal, with a small tube; the limb is campanulate, and divided into five segments: it has no pericarpium: the seeds are single, roundish, and hairy. See plate XXXVII. fig. 3.

CARLINE, or **CAROLINE**, a silver coin current in the neapolitan dominions, and worth about four pence of our money.

CARLINE THISTLE, *carlina*. See the article **CARLINA**.

CARLINES, or **CARLINGS**, in a ship, two pieces of timber, lying fore and aft, along from beam to beam, whereon the ledges rest on which the planks of the ship are fastened. All the carlings have their ends let into the beams culvertail-wise: they are directly over the keel, and serve as a foundation for the whole body of the ship.

CARLISLE, a city in Cumberland, situated near the mouth of the river Eden, and the Solway frith; west longitude $2^{\circ} 30'$, and north latitude $54^{\circ} 45'$. It is a bishop's see.

CARLOCK, in commerce, a sort of isinglass made with the sturgeon's bladder, imported from Archangel. The chief use of it is for clarifying wine; but it is also used by dyers. The best carlock comes from Astracan, where a great quantity of sturgeon is caught.

CARLOWITZ, a town of Slavonia, situated on the west side of the Danube, about thirty-five miles north-west of Belgrade; east long. $20^{\circ} 45'$, and north lat. $45^{\circ} 25'$.

CARLETADT, the capital of Croatia, a frontier province of christendom against the Turks: east longitude 16° , and north latitude $45^{\circ} 5'$.

It is subject to the house of Austria.

CARLSTADT is also the name of a town in the bishopric of Wurtzburg, in the circle of Franconia, in Germany, situated on the river Maine, about fourteen miles north of Wurtzburg: east longitude $9^{\circ} 50'$, and north latitude 50° .

CARMAGNIOL, a fortified town of Pied-

mont, situated on the river Po, about ten miles south of Turin; east longitude $7^{\circ} 30'$, and north latitude $44^{\circ} 45'$.

CARMELITES, or **WHITE-FRIERS**, are an order of our lady of mount Carmel, making one of the four orders of mendicants. They pretend to derive their original from the prophets Elijah and Elisha. Their original rules contained sixteen articles, one of which confined them to their cells, and enjoined them to employ themselves day and night in prayer; another prohibited the brethren having any property; another enjoined fasting, from the feast of the exaltation of the holy cross till easter, excepting on Sundays; abstinence at all times from flesh, was enjoined by another article; one obliged them to manual labour; another imposed a strict silence on them, from vespers till the tierce the next day: however, these constitutions have been in some respects altered.

This order is so much increased, that it has at present thirty-eight provinces, besides the congregation of Mantua (in which there are fifty-four monasteries, under a vicar-general) and the congregation of bare-footed carmelites in Italy and Spain, which have their peculiar generals.

The barefooted carmelites are a reform of the ancient carmelites, set on foot in 1540, by S. Theresa, and so called from their going barefooted.

If a monk of this order lie with a woman, he is prohibited saying mass for three or four years, is declared infamous, and obliged to discipline himself publicly once a week: if he is again guilty of the same offence, his penance is doubled: and if a third time, he is expelled the order.

Knights of the order of our lady of mount

CARMEL, a military order instituted by Henry IV. surnamed the Great, of France, in honour of the blessed Virgin, and incorporated into the order of knights of St. Lazarus of Jerusalem.

CARMEN, a latin term, used, in a general sense, to signify a verse; but in a more peculiar sense, to signify a spell, charm, form of expiation, execration, &c. couched in few words, placed in a mystic order, on which its efficacy was supposed to depend.

CARMENTALIA, feasts celebrated by the Romans, in honour of the prophetess Carmenta, the mother of Evander.

They were solemnized twice in the month of January, viz. on the 11th and 15th.

These

These feasts were established on account of a great fecundity among the Roman dames, after a general reconciliation with their husbands, with whom they had been at variance, in regard to the use of coaches being prohibited them by an edict of the senate. It was the women who celebrated these feasts.

CARMINATIVES, in pharmacy, medicines used in colics, or other flatulent disorders; to dispel the wind.

A great many seem to be strangers to this term, as it does not appear to carry in it any thing expressive of the medicinal efficacy of those simples which pass under its denomination. This term had certainly its rise, when medicine was too much in the hands of those jugglers, who, for want of true knowledge in their profession, brought religion into their party; and what through their ignorance they were not able to do by rational prescription, they pretended to effect by invocation and their interest with heaven. Which cant being generally, for the surprise sake, couched in some short verses, the word *carmen*, which signifies a verse, was used also to mean an enchantment: which was frequently made use of to satisfy the people of the operation of a medicine they could not account for. And as those medicines now under this name are of quick efficacy; and the consequences thereof, in many instances, surprising; and the most violent pains, sometimes arising from pent up wind, immediately ceasing upon its dispersion; such medicines as give relief, in this case, are more properly termed carminatives, as if they cured by enchantment.

How they expel wind may be conceived, when we consider that all the parts of the body are perspirable. Sanctorius, in his *Medicina Statica*, determines all we call wind in the bowels to be such perspirable matter as makes its escape thro' the coats of the stomach and intestines. Between the several membranes likewise of the muscular parts may such matter break out, and lodge for some time. Now whatsoever will rarefy and render such collections of vapours thinner, must conduce to their utter discharge out of the body; and consequently remove those uneasinesses, which arise from their detention. And as all those things that pass under this denomination are warm, and consist of very light subtle parts, it is easy to conceive how a mixture of such particles may agitate and rarefy those flatulencies,

so as to facilitate their expulsion; especially considering those grateful sensations which such medicines give to the fibres; which cannot but invigorate their tonic undulations so much, that by degrees the obstructed wind is dislodged, and at last quite expelled. But if the obstruction be not great, the rarefaction of the wind upon taking such a medicine is often so sudden, and likewise its discharge, that it goes off like the explosion of gunpowder.

All the things under this class, being warm and discussive, are much used in the composition of cathartics, of the rougher sort especially. For the irritation occasioned by those would be scarce tolerable without the mitigation of such grateful ingredients. Many likewise of this sort are in the composition of discussive topics.

The four carminative flowers are those of camomile, melilot, motherwort, and dill; besides, angelica, fennel, lovage, anise, caraway, coriander, cummin, &c. all agree in their carminative qualities, and are therefore used in compositions of that intention.

CARMINE, a powder of a very beautiful red colour, bordering upon purple, and used by painters in miniature; though but rarely, because of its great price.

It is extracted from cochineal, by means of water, wherein chouan and antour have been infused; some add rocou, but this gives it too much of the oval cast. Others make carmine with brasil-wood, fernambouc, and leaf-gold, beat in a mortar, and steeped in white-wine vinegar; the scum arising from this mixture, upon boiling, when dried, makes carmine; but this kind is vastly inferior to the former: there is another carmine, made of brasil-wood and fernambouc, by a different preparation.

CARMONA, a town of Andalusia, in Spain, about seventeen miles east of Sevil; west longitude $5^{\circ} 35'$, and north latitude $37^{\circ} 20'$.

CARNARVON, a borough-town of Carnarvonshire, in north Wales, about five miles south-west of Bangor: west long. $4^{\circ} 25'$, and north latitude $53^{\circ} 20'$.

It gives the title of earl to the noble family of Bridges; and sends one member to parliament.

CARNATION, in botany, a name given to several species of dianthus or pink, on account of their beautiful flesh-colour.

CARNATION-COLOUR, among painters, is

understood of all the parts of a picture, in general, which represent flesh, or which are naked and without drapery. In colouring for flesh, there is so great a variety, that it is hard to lay down any general rules for instruction therein; neither are there any regarded by those who have acquired a skill this way: the various colouring for carnations, may be easily produced, by taking more or less red, blue, yellow, or bistre, whether for the first colouring, or for the finishing: the colour for women should be bluish, for children a little red, both fresh and gay; and for the men it should incline to yellow, especially if they are old.

CARNATION, among dyers. To dye a carnation, or red rose-colour: take liquor of wheat-bran, a sufficient quantity; alum, three pounds; tartar, two ounces; boil them, and enter twenty yards of broad cloth; boil three hours; cool, and wash it: take fresh, clear bran liquor, a sufficient quantity; madder, five pounds: boil and sadden according to art. The Bow-dyers know that the solution of jupiter, or delfed tin, being put in a kettle to the alum and tartar (in another process) make the cloth, &c. attract the colour into it, so that none of the cochineal is left, but all drawn out of the water into the cloth.

CARNEIA, *Karvnia*, in antiquity, a festival in honour of Apollo, surnamed Carneus, held in most cities of Greece, but especially at Sparta, where it was first instituted. The reason of the name, as well as the occasion of the institution, is controverted. It lasted nine days, beginning on the 13th of the month Carneus. The ceremonies were an imitation of the method of living, and discipline used in camps. Nine *exedæ*, or tents, were erected, in each of which nine men of three different tribes lived the space of nine days, during which time they were obedient to a public crier, and did nothing without express order from him. The chief priest who attended this solemnity was named *Agetes*; besides whom, there were five ministers called *carneata*, who were obliged to hold their office four years, and to remain bachelors during that time.

CARNEL, among ship-carpenters. The building of ships, first with their timbers and beams, and after bringing on their planks, is called carnel-work, to distinguish it from clinch-work.

CARNELIAN, *sarda*, in natural history,

a precious stone, of which there are three kinds, distinguished by three colours, a red; a yellow, and a white. Authors have attributed medicinal virtues to the red carnelian; this, therefore, is to be understood the *sarda*, or carnelian of the shops. It is very well known among us, is found in roundish or oval masses, much like our common pebbles; and is generally met with between an inch and two or three inches in diameter: it is of a fine, compact, and close texture, of a glossy surface; and, in the several specimens, is of all the degrees of red, from the palest flesh-colour to the deepest blood-red. It is generally free from spots, clouds, or variegations; but sometimes it is veined very beautifully with an extremely pale red, or with white; the veins forming concentric circles, or other less regular figures, about a nucleus, in the manner of those of agates. The pieces of carnelian which are all of one colour, and perfectly free from veins, are those which our jewellers generally make use of for seals, though the variegated ones are much more beautiful. The carnelian is tolerably hard, and capable of a very good polish: it is not at all affected by acid menstruums: the fire divests it of a part of its colour, and leaves it of a pale red; and a strong and long continued heat will reduce it to a pale dirty grey.

The finest carnelians are those of the East-Indies; but there are very beautiful ones found in the rivers of Silesia and Bohemia; and we have some not despicable ones in England.

Though the antients have recommended the carnelian as an astringent, and attributed a number of fanciful virtues to it, we know no other use of the stone, than the cutting seals on it, to which purpose it is excellently adapted, as being not too hard for cutting, and yet hard enough not to be liable to accidents, to take a good polish, and to separate easily from the wax.

CARNIOLA, a territory of Austria, in Germany, bounded by Carinthia and Stiria on the north, and by the dominions of Venice on the south.

CARNIVAL, or **CARNAVAL**, a time of rejoicing, a season of mirth, observed with great solemnity by the Italians, particularly at Venice, holding from twelfthday till lent.

Fests, balls, operas, concerts of music, intrigues, mariages, &c. are chiefly held

in

in carnival-time. The carnival begins at Venice the second holiday in christmas : then it is they begin to wear masks, and open their play-houses and gaming-houses; the Place of St. Mark is filled with mountebanks, jack-puddings, pedlars, whores, and such like mob, who flock thither from all parts: there have been no less than seven foreign princes, and thirty thousand foreigners here, to partake of these diversions.

CARNIVOROUS, an appellation given to animals which naturally feed on flesh, and thence called beasts or birds of prey. Some will have it, that no quadrupeds are naturally carnivorous but those furnished with canine or dog-teeth: on which principle mankind are excluded out of the number of naturally carnivorous animals; and, in fact, animal food must undergo various preparations before it is fit for the use of man.

To the arguments used by Dr. Wallis and others, to prove that man is not naturally carnivorous, Dr. Tyson answers, that if man had been designed by nature not to be carnivorous, there would doubtless have been found somewhere in the globe, people who do not feed on flesh; and as history seems not to furnish any instance hereof, may not we say, that what is done universally by the whole species, is natural? For what the Pythagoreans did in abstaining from flesh, was on the principle of a transmigration, a mistake in their philosophy, not a law of nature: and though in some countries, men feed more sparingly on flesh than in others, this is owing to their own choice, from the advantage they perceive by it. That carnivorous animals are not always without a colon and cæcum; nor are all animals carnivorous which have those parts; but that the carigueya, or opossum, for instance, has both a colon and a cæcum, yet feeds on poultry, and other flesh; whereas the hedge-hog has neither colon nor cæcum, and therefore ought to be carnivorous, yet it feeds only on vegetables; add, that hogs, which have both, will feed on flesh greedily enough when they can get it; and that rats and mice, which have large cæcums, feed on bacon, as well as bread and cheese. That from the multitude of carnivorous animals which want those parts, and of non-carnivorous which have one or both, no safe conclusion can be drawn; since we might as well argue, that because the neat-

kind, stag-kind, goat-kind, and sheep-kind, which live on herbage, have four stomachs, therefore all those which have not four stomachs were not designed by nature to be graminivorous; whereas the horse-kind and hare-kind have but one stomach, yet feed on grass like the former: add, that in many animals which live on the same sort of food, the structure of the stomach is found very different; and that in others which live on different foods, *ex. gr.* on flesh, on fruits, on grass, &c. the stomachs are found so like, that it is difficult to assign any difference between them; and if we cannot make a judgment what food is most natural to an animal from the structure of its stomach, which is the part most concerned in digesting it, much less can we judge from the colon or cæcum, which are parts remote from the stomach, and rather seem as a cloaca for the reception of the fæces, than of use for digesting or distributing the food. In fine, since man has all manner of teeth, fit for the preparation of all sorts of foods, should it not rather seem that nature intended we should live on all? And as the alimentary duct in the human-kind is fitted for digesting all sorts of food, may we not rather conclude that nature did not intend to deny us any?

CARNIUS, in chronology, the syracusan name for the athenian month metagition; which was the second of their year, and answered to the latter part of our July, and beginning of August.

CARNOSE, or **CARNOUS**, in a general sense, something belonging to or abounding with flesh. Hence,

CARNOSE LEAF is one full of pulp, contained between the investient membranes.

CARNOSE MUSCLE. See **PYRAMYDALIS**.

CARNOSE PANNICLE. See the article **PANNICULUS CARNOSUS**.

CARNOSITY, a term sometimes used for an excrescence, or tubercle, in the urethra, the neck of the bladder, or yard, which stops the passage of the urine. Carnosities are very difficult of cure: they are not easily known, but by introducing a probe into the passage, which there meets with resistance. They usually arise from some venereal malady ill managed.

CARO, FLESH, in anatomy. See the article **FLESH**.

CARO MUSCULOSA QUADRATA, in anatomy, the same with the *pulmaris brevis*. See the article **PULMARIS**.

CAROB.

CAROB-TREE, the english name of the filiqua, or ceratonia, of botanists. See the article **CERATONIA**.

CAROLINA, a province of North America, belonging to Great Britain: it is situated, comprehending Georgia, between 75° and 86° west longit. and between 31° and 36° north latitude; and bounded by Virginia on the north, by the Atlantic ocean on the east, by spanish Florida on the south, and by the appalachian mountains on the west; or rather extends westward, without any limits. It is divided into three distinct governments, *viz.* North and South Carolina, and Georgia.

CAROLINE-BOOKS, the name of four books, composed by order of Charlemagne; to refute the second council of Nice.

These books are couched in very harsh and severe terms, containing one hundred and twenty heads of accusation against the council of Nice, and condemning the worship of images.

CAROLSTAT, a town of Gothland, in Sweden, situated at the north end of the Wener-lake, about one hundred and forty miles west of Stockholm: east longitude $13^{\circ} 30'$, and north latitude $59^{\circ} 40'$.

CAROLUS, an antient english broad piece of gold, struck under Charles I. its value has of late been at twenty-three shillings sterling, though at the time it was coined, it is said to have been rated at only twenty shillings.

CAROLUS, a small copper coin, with a little silver mixed with it, struck under Charles VIII. of France.

The carolus was worth twelve deniers, when it ceased to be current.

Those which are still current in trade, in Lorrain, or in some neighbouring provinces, go under the name of french sols.

CAROTEEL, in commerce, an uncertain weight or quantity of goods: thus a caroteel of cloves is from four to five hundred weight; of currants, from five to nine; of mace, about three hundred; of nutmegs, from six to seven hundred and a half.

CAROTIDS, in anatomy, two arteries of the neck, which convey the blood from the aorta to the brain, one called the right carotid, and the other the left: they arise near each other, from the curvature of the aorta, and run upon each side of the arteria trachea, between it and the internal jugular vein, as big as the larynx, without any ramification; each

of these is then ramified into two branches, one named internal, the other external. The internal carotid-artery having passed the great canal of the apophysis petrosa of the os temporis, sends off a branch thro' the sphenoidical fissure to the orbit of the eye, and soon afterwards another thro' the foramen opticum, by which it communicates with the external carotid. The external is the smallest; it runs between the external angle of the lower jaw, and the parotid gland; afterwards it ascends on the fore side of the ear, and ends in the temples. All the ramifications of the carotids are covered by the pia mater, in the duplicature of which they are distributed, and form capillary, reticular textures in great numbers; afterwards they are lost in the inner substance of the brain. See the article **ARTERY**.

CARP, in ichthyology, the english name of the cyprinus, with four cirri, or beards, and the third ray of the back-fins armed with small hooks.

The carp is generally taken for the queen of fresh-water fish; it is subtle, and lives the longest of all fish, except the eel, out of its proper element. It is observed to breed several months in one year; for which reason you hardly ever take either male or female without melt or spawn; but they breed more naturally in ponds, than in running water, and in the latter very seldom or never. In the places they frequent, their stock is innumerable. To make a carp fat and very large, rake all the sides of your pond, when the water is fallen away, about April, then sow hay seeds, the growth of which, when the winter comes, and overflows it, will feed them, and make them very fat.

CARPA, and **CARPANUS**, the same with carp. See the preceding article.

CARPATHIAN MOUNTAINS, those dividing Hungary and Transilvania from Poland.

CARPENTER, an artificer in wood, designed for the purposes of building. See the article **CARPENTRY**.

Ship-CARPENTER, one employed in building or repairing ships. See the article *Construction of SHIPS*.

CARPENTRAS, a city of Provence, in France, about seventeen miles north-east of Avignon: west longitude 5° , and north latitude $44^{\circ} 10'$.

It is subject to the pope.

CARPENTRY, the art of cutting, framing, and joining large pieces of wood, for the uses of building. It is one of the

arts subservient to architecture, and is divided into house-carpentry and ship-carpentry: the first is employed in raising, roofing, flooring of houses, &c. and the second in the building of ships, barges, &c. the rules in carpentry are much the same with those of joinery; the only difference is, that carpentry is used in the larger coarser work, and joinery in the smaller and curious. See JOINERY.

CARPESIUM, in botany, a genus of the syngenesia polygamia superflua class of plants, the common calyx of which is an imbricated perianthium; the compound flower is equal; the stamina of the hermaphrodite flower are five, short filaments; the antheræ form a cylinder; there is no pericarpium, but the seed, which is oblong and compressed, is lodged in the cup.

CARPET, a sort of covering of stuff, or other materials, wrought with the needle or on a loom, which is part of the furniture of a house, and commonly spread over tables, or laid upon the floor. Persian and Turkey carpets are those most esteemed; tho' at Paris there is a manufactory after the manner of Persia, where they make them little inferior, not to say finer, than the true Persian carpets. They are velvety, and perfectly imitate the carpets which come from the Levant. There are also carpets of Germany, some of which are made of woollen stuffs, as serges, &c. and called square carpets: others are made of wool also, but wrought with the needle, and pretty often embellished with silk; and lastly, there are carpets made of dog's hair. We have likewise carpets made in England, which are used either as floor-carpets, or to make chairs and other household-furniture: it is true we are not arrived at the like perfection in this manufacture with our neighbours the French; but may not this be owing to the want of the like public encouragement?

CARPI, a town of the Veronese, in Italy, situated on the river Adige, twenty-four miles south-east of Verona: east longitude $11^{\circ} 40'$, and north latitude $45^{\circ} 10'$.

CARPI is also the name of a city of the dutchy of Modena: east longitude $11^{\circ} 10'$, and north latitude $40^{\circ} 40'$.

CARPINUS, the HORN-BEAM, in botany, a genus of plants belonging to the monœcia-polyandria class; in the male flower there is no corolla, nor in the female; but the male flowers are arranged into a cylindric amentum, and the female

into an oblong one; there is no pericarpium, but the amentum, growing very large, contains at the base of each squamula, an oval, angulated nut.

CARPOBALSAM, in the materia medica, the fruit of the tree which yields the true oriental balsam.

The carpobalsam is used in Egypt, according to Prosper Alpinus, in all the intentions for which the balsam itself is applied: but the only use the Europeans make of it is in venice-treacle and mithridate, and in these not a great deal; for cubebs and juniper-berries are generally substituted in its place.

CARPOCRATIANS, heretics, who sprung up towards the middle of the II^d. century, being a branch of the antient gnostics. They held a community of wives; and maintained, that a man cannot arrive at perfection, without having passed through all criminal actions; laying down as a maxim, that there is no action bad in itself, but only from the opinion of men. Accordingly they are charged with committing the most infamous actions at their love feasts. They attributed the creation of the world to angels; they said, that Jesus was born in a manner like other men; they rejected the resurrection of the body; and they marked their disciples at the bottom of the right ear with a hot iron, or with a razor.

CARPUS, the WRIST, in anatomy. See the article WRIST.

CARR, among the antients, a kind of throne mounted on wheels, and used in triumphs and other solemn occasions.

The carr on medals, drawn by horses, lions, or elephants, signifies a triumph, or an apotheosis; sometimes a procession of the images of the gods at a solemn supplication; and sometimes of those of some illustrious families at a funeral. The carr, covered and drawn by mules, only signifies a consecration, and the honour done any one of having his image carried at the games of the circus.

CARRAC, the name of the vessels employed by the Portuguese in the east india and brasilian trade: they are very large, and fitted for fighting as well as for burden.

CARRAT, or **CARACT**. See the article **CARACT**.

CARRIAGE, a vehicle serving to convey persons, goods, merchandizes, and other things from one place to another.

There are public and private carriages, as also water and land-carriages. Wa-

ter-

ter-carriages, in general, are those vessels which serve to carry persons or merchandize by sea, rivers, lakes, &c. as ships, barks, wherries, boats, &c. Land-carriages are machines invented to carry more conveniently, and in greater number, persons or goods. Those mostly used in Europe, are coaches, chariots, calashes, berlins, waggons, with four wheels, chaises, carts, and drays with two wheels, all drawn by horses, mules, buffaloes, oxen, &c. and in Lapland and Siberia by rein-deer. See the articles **COACH**, **CHARIOT**, &c.

All these animals are also proper to carry burdens on their backs, in which manner the camels and dromedaries are employed in the caravans of Asia and the cassias of Africa. See the articles **CARAVAN** and **CAFFILA**.

In some parts of America, the vigoonas, lamas, and alpagnas are used as carriage-beasts. Lastly, the sedan-chair, carried by two men, and the palanquin carried on the shoulders of two, four, or six men, are also carriages, but serve for persons only. The former is used in many cities of Europe, and the latter in the East-Indies.

Letter or bill of CARRIAGE, a writing given to a carrier or the master of any carriage, containing the number and quality of the pieces, bales, &c. of merchandizes, which he is intrusted with, that he may demand the payment of the carriage, and that the person, to whom they are addressed, may see whether they are delivered in the same number, and in as good condition as they were given to the carrier.

CARRIAGE of a cannon, the frame or timber-work on which it is mounted, serving to point it for shooting, or to carry it from one place to another. It is made of two planks of wood, commonly one half the length of the gun, called the cheeks, and joined by three wooden transoms, strengthened with three bolts of iron. It is mounted on two wheels; but on a march has two fore-wheels, with limbers added. The principal parts of a carriage are the cheeks, transoms, bolts, plates, train, bands, bridge, bed, hooks, trunion-holes, and capsquare.

Block-CARRIAGE, a cart made on purpose for carrying mortars and their beds from place to place.

Truck-CARRIAGE, two short planks of wood supported on two axel-trees, having four trucks of solid wood for carry-

ing mortars or guns upon battery, where their own carriages cannot go. They are drawn by men.

CARRIAGE, in agriculture, a furrow for the conveyance of water to overflow and improve the ground. It is distinguished into two sorts; the main carriage, which should be made with a convenient descent; and the lesser carriages, which should be shallow, and as many in number as possible.

CARRICK, the most southerly division of the shire of Aire, in Scotland.

CARRICK on the Sure, a town of Ireland, in the county of Tipperary, and province of Munster, about fourteen miles north-west of Waterford: west longitude $7^{\circ} 24'$, and north latitude $52^{\circ} 16'$.

CARRICK-FERGUS, a town in the county of Antrim, and province of Ulster, in Ireland, about eighty-five miles north of Dublin: west longitude $6^{\circ} 15'$, and north latitude $54^{\circ} 45'$.

CARRIER, a person that carries goods for others, for his hire.

If a carrier receives goods to carry to such a place, and he carries them not thither, but to some other place, he may be guilty of felony.

CARROT, *daucus*, in botany. See the article **DAUCUS**.

Carrots are the most necessary and universal roots this country affords: there are two sorts of carrots, the yellow and the orange; the last of which is by much the better: they thrive best in a warm, light, or sandy soil. It is usual to sow them with beans; some of the fairest of them, being laid up in dry sand, will keep throughout the winter: these may be reserved till the spring, and planted for feed.

Deadly CARROT, the english name of the thapsia of authors. See **THAPSIA**.

CARROUSAL, a course of chariots and horses, or a magnificent entertainment exhibited by princes on some public rejoicing. It consists in a cavalcade of several gentlemen richly dressed and equipped, after the manner of antient cavaliers divided into squadrons, meeting in some public place, and practising jousts, tournaments, &c.

The last carousals were in the reign of Lewis XIV.

CARRYING, a term used in the manege. Thus a horse is said to carry low, that has naturally a soft ill shaped neck, and lowers his head too much. And a horse carries well, when his neck is raised or arched,

arched, and when he holds his head high without constraint, firm and well placed.

CARS, or **KARS**, a city of Turcomania, or the greater Armenia, situated on a river of the same name: east longitude 44° , and north latitude $41^{\circ} 30'$. It is subject to the Turks.

CARS, or **CARS of Gowry**, is also the name of a district of Perthshire, in Scotland, lying eastward of Perth, on the northern bank of the Tay.

CART, a land carriage with two wheels, drawn commonly with horses, to carry heavy goods, &c. from one place to another.

The use of carts being very common, and convenient for the carriage of all sorts of commodities, the officers of the police in France, and even the king's council, have not judged it unworthy their care and attention to regulate the functions, and often settle the price thereof.

Carts, in London and Westminster, are not to carry more than twelve sacks of meal, or one chaldron of coals, on pain of forfeiting one of the horses. The wheels are to be of a certain thickness, and without iron; and if any person ride in a cart, not having another to guide it, he shall forfeit ten shillings.

CART-WHEEL. See the article **WHEEL**.

CARTAMA, a town of Granada, in Spain, about ten miles north-west of Malaga: west longitude $4^{\circ} 30'$, and north latitude $36^{\circ} 40'$.

CARTEL, an agreement made between two states for the exchange of their prisoners of war.

CARTEL signifies also a letter of defiance, or a challenge, to decide a controversy, either in a tournament, or in a single combat. See the article **DUEL**.

CARTERET, a county of South Carolina, in North America.

CARTESIANS, a sect of philosophers, who adhere to the philosophy advanced by Des Cartes, and founded on the two following principles; the one metaphysical, the other physical; the metaphysical one is, *I think, therefore I am*; the physical principle is, *that nothing exists but substance*. Substance he makes of two kinds; the one a substance that thinks, the other a substance extended; whence actual thought and actual extension are the essence of substance. The first of these articles is refuted by Mr. Locke, who shews, that thinking is not essential to

the soul, or that its essence does not consist in thought; the other is confuted from the principles of the Newtonian philosophy. See the article **NEWTONIAN PHILOSOPHY**.

The essence of matter being thus fixed in extension, the cartesians conclude, that there is no vacuum, nor any possibility thereof in nature, but that the world is absolutely full: mere space is precluded by this principle, in regard, extension being applied in the idea of space, matter is so too.

Upon these principles, the cartesians explain mechanically, and according to the laws of motion, how the world was formed, and whence the present appearances of nature do rise. They suppose, that matter was created of an indefinite extension, and divided into little square masses, full of angles; that the creator impressed two motions on this matter; one whereby each part revolved round its center, another whereby an assemblage, or system, turned round a common center; whence arose as many different vortices as there were different masses of matter, thus moving round common centers.

The consequences of this hypothesis, according to the cartesians, will be, that the parts of matter in each vortex could not revolve among each other, without having their angles gradually broken, and that this continual friction of parts and angles produced three elements; the first, an infinitely fine dust, formed of the angles broken off; the second, the spheres remaining, after all the angular irregularities are thus removed; these two make the matter of Des Cartes's first and second element; and those particles not yet rendered smooth and spherical, and which still retain some of their angles, make the third element.

Now, according to the laws of motion, the subtillest element must take up the center of each system, being that which constitutes the sun, the fixed stars above, and the fire below; the second element, composed of spheres, makes the atmosphere, and all the matter between the earth and the fixed stars, in such a manner as that the largest spheres are always next the circumference of the vortex or system and the smallest next its center; the third element, or the hooked particles, is the matter that composes the earth, all terrestrial bodies, comets, spots in the sun, &c. See the article **VORTEX**.

Though both philosophers and divines

have a just plea against this romantic system, yet it must be owned, that Des Cartes, by introducing geometry into physics, and accounting for the natural phenomena by the laws of mechanics, did infinite service to philosophy, in purging it from that venerable rust, which, in a long succession of ages, it had contracted.

CARTHAGENA, a large city, with one of the best harbours in Spain, situated in the province of Murcia, about twenty miles south of that city: west longitude $1^{\circ} 5'$, and north latitude $37^{\circ} 40'$. It is a bishop's see.

New CARTHAGENA, the capital of a province of the same name, in South America, situated on a kind of peninsula: west long. 77° , and north lat. 11° .

It is one of the largest and best fortified towns in South America.

CARTHAMUS, **BASTARD-SAFFRON**, in botany, a genus of plants belonging to the syngenesia-polygamia-æqualis class; the compound flower is uniform and tubulous; the proper one monopetalous, of a funnel-form, with a limb divided into five erect, and almost equal parts. There is no pericarpium, but a connivent cup contains solitary seeds. See plate XXXVII. fig. 4.

The seeds of this plant are said to purge watery and viscid humours, and deterge the mucus, which frequently adheres to the inner coats of the stomach; but they are very little used in composition, and hardly ever occasionally prescribed.

CARTHUSIANS, a religious order, founded in the year 1080, by one Bruno. Their rules are very severe. They are not to go out of their cells, except to church, without leave of their superior; nor speak to any person without leave. They must not keep any portion of their meat or drink till next day: their beds are of straw, covered with a felt; their cloathing two hair cloths, two cowls, two pair of hose, and a cloak, all coarse. In the refectory, they are to keep their eyes on the dish, their hands on the table, their attention on the reader, and their hearts fixed on God. Women are not allowed to come into their churches.

CARTHUSIAN-POWDER, the same with kermes mineral. See the article **KERMES**.

CARTILAGE, in anatomy, a body approaching much to the nature of bones; but lubricous, flexible, and elastic. It contains either none at all, or, at the utmost, but very little of the medullary

matter, and serves for various uses; as to prevent the bones from being damaged by a continual friction; to join them together by a sychondrosis; and to contribute, in a great measure, to the formation of several parts; for instance, the larynx, the nose, the ears, &c. See the articles **LARYNX**, **NOSE**, &c.

Cartilages are of various figures, obtaining various names from the things they resemble. There is a thyroide or scutiform cartilage, a cricoide or annular one, two arytenoide cartilages, a xiphoide or ensiform one, and so of the rest. See the articles **THYROIDE CARTILAGE**, **CRICOIDES**, &c.

Of the cartilages that unite the bones together, some join them so firmly, as to allow no sensible motion, as in the symphysis of the ossa pubis; and others, in such a manner, as to allow of different motions, as in those by which the bodies of the vertebræ are connected. The first grow easily hard, the other appear, in some measure, viscid, and retain their flexibility.

CARTILAGINOUS, something belonging to, or partaking of the nature of a cartilage.

CARTILAGINOUS FISHES, or those with cartilaginous fins, constitute a class or order of fishes, otherwise called chondropterygious. See **CHONDROPTERYGII**.

CARTILAGINOUS LEAF, that surrounded with a margin, thicker indeed than the rest, but of the same substance.

CARTMEL, a market-town of Lancashire, about ten miles north-west of Lancaster: west longitude $2^{\circ} 40'$, and north latitude $54^{\circ} 15'$.

CARTON, or **CARTOON**, in painting, a design drawn on strong paper to be afterwards calked through, and transferred on the fresh plaster of a wall to be painted in fresco.

Carton is also used for a design coloured, for working in mosaic, tapestry, &c. The cartons at Hampton-court are designs of Raphael Urbin, intended for tapestry.

CARTOUCHE, in architecture and sculpture, an ornament representing a scroll of paper. It is usually a flat member, with wavings, to represent some inscription, device, cypher, or ornament of armoury. They are, in architecture, much the same as modillions; only these are set under the cornice in wainscoting, and those under the cornice at the eaves of a house.

CARTOUCHE, in the military art, a case of wood, about three inches thick at the bottom, girt with marlin, holding about four hundred musket-balls, besides six or eight balls of iron, of a pound weight, to be fired out of a hobit, for the defence of a pass, &c.

A cartouche is sometimes made of a globular form, and filled with a ball of a pound weight; and sometimes it is made for the guns, being of half of half or quarter pound weight, according to the nature of the gun, tied in form of a bunch of grapes, on a tompon of wood, and coated over. These were made in the room of partridge shot.

CARTOUCHE is also used to denote the same as a cartridge. See **CARTRIDGE**.

CARTRIDGE, in the military art, a case of pasteboard or parchment, holding the exact charge of a fire-arm. Those for musquets, carabines, and pistols hold both the powder and ball for the charge; and those of cannon and mortars are usually in cases of pasteboard or tin, sometimes of wood, half a foot long, adapted to the caliber of the piece.

CARTRIDGE, in architecture, the same as cartouche. See **CARTOUCHE**.

CARTRIDGE-BOX, a case of wood or turned iron, covered with leather, holding a dozen musquet cartridges. It is wore upon a belt, and hangs a little lower than the right pocket-hole.

CARVER, a cutter of figures or other devices in wood. See **CARVING**.

This is also the name of an officer of the table, whose business is to cut up the meat, and distribute it to the guests.

CARVING, that branch of sculpture which regards cutting in wood. See the articles **CUTTING in Wood** and **SCULPTURE**.

CARUM, **CARAWAY**, in botany, a genus of the pentandria-digynia class of plants; the universal flower of which is uniform; the single flower almost equal, consisting of five obtuse, cordated petals, with inflexed tops. There is no pericarpium, but the fruit is ovato-oblong, striated, and separable into two parts, with two seeds, convex, ovato-oblong, and striated on one side, and plain on the other.

The seed of this plant is one of the greater hot seeds, stomachic, carminative, and good in the colic. The officinal preparations of it are the seeds candied with sugar, and an oil distilled from the seed.

CARUNCULA, in anatomy, a term de-

noting a little piece of flesh, and applied to several parts of the body, thus:

CARUNCULA LACRYMALIS, a little eminence, situated in the larger angle, or canthus of the eye, where there are also sometimes hairs and certain little glands. According to some anatomists they help to keep the two puncta open when the eyes are shut. See the article **EYE**.

CARUNCULÆ MYRTIFORMES, fleshy knobs, about the size of a myrtle-berry, in the parts of generation of women, which owe their origin to the breaking of the hymen; and therefore not to be found in subjects, in which that membrane exists intire. They are two, three, or four in number, and are placed where the hymen was. See the article **HYMEN**.

CARUNCULÆ PAPILLARES, or **MAMILLARES**, little protuberances on the inside of the pelvis of the kidneys. See the articles **PELVIS** and **KIDNEYS**.

CARUNCULÆ CUTICULARES ALÆ, the same with nymphæ. See **NYMPHÆ**.

CARUNCLES, in the urethra, proceeding from a gonorrhœa, or an ulceration of the urethra, may be removed by introducing the bougie or wax candle. See the article *Medicated* **CANDLE**.

CARUS, in medicine, a sudden deprivation of sense and motion, affecting the whole body.

Hippocrates says, that though a carus is a privation of sense and motion, yet the faculty of respiration is not at all injured; and that it is caused by an affection of the fore part of the brain only, the middle ventricle of the brain also suffering, by content of parts, so as to disturb the actions of the rational faculty: but if this carus or sopor oppresses respiration, to so violent a degree, as the patient cannot breathe, without great efforts, as those who snore under a deep sleep, it is called apoplexy; the solution of which is generally succeeded by a paraplegy: but a carus is generally followed by a good state of health. It is sometimes taken for a heavy and profound sleep; from which it is difficult to be raised. This carus differs little from a lethargy. See the article **LETHARGY**.

CARWAR, a town on the coast of Malabar, in the hither India, sixty miles south of Goa: east longitude 73°, and north latitude 15°.

Here our east-india company have a factory, from whence they import pepper.

CARYATIDES, or **CARIATES**, in architecture,

chitecture, a kind of order of columns or pillars, under the figure of women, dressed in long robes, after the manner of the carian people, and serving instead of columns. to support the entablement. The caryatides should always have their legs pretty close to each other, and even across, or one athwart the other; their arms laid flat to their bodies, or to the head; and as little spread as possible: when they are insulated, they should never have any great weight to support; and they ought always to appear in characters proper to the place they are used in.

CARYOCOSTINUM, in pharmacy, an electuary, chiefly prepared of cloves, white costus, ginger, cummin-seeds, &c. much recommended for purging choler, and breaking away obstructions of cachectic constitutions; also an excellent purge for strong people.

CARYOPHYLLEOUS, an appellation given to such flowers as resemble the pink. According to Tournefort, the plants with caryophylleous flowers, constitute a particular class by themselves. See the article **BOTANY**.

CARYOPHYLLUS, the **CLOVE-TREE**, in botany, a genus of the polyandria monogynia class; the flower of which consists of four roundish, crenated petals, less than the cup: the fruit is oval, containing one cell, and umbilicated; the seed is single, oval, and large. See plate XXXVII. fig. 5.

This fruit is not so much used in medicine, *per se*, as in seasoning of food: their essential oil, of which they yield great plenty, is used in many things, particularly cathartic compositions. It is much used for the tooth-ach, dropped on a little cotton or lint, and stuffed into the hollow of the tooth, or held as near as can be to the part affected. The clove gilly-flowers are aromatic, and very grateful to the smell and taste.

CARYOPHYLLUS, the **PINK**, in botany, the same with the dianthus of Linnæus. See the article **DIANTHUS**.

CARYOPHYLLUS, in botany, a genus of plants, the class of which is not yet perfectly ascertained; the male and female flowers are produced in separate parts of the same spadix: the corolla is divided into three hollow, lanceolated segments; the stamina are numerous filaments, longer than the corolla; the antheræ are linear; the corolla in the female flower is divided into two very small acuminate segments; the fruit is a round berry, containing a

single cell: the seeds are two, large, oblong, rounded on one side, and flattened on the other.

CASAL, the capital of the dutchy of Montferrat, in Italy, situated on the river Po, forty-five miles east of Turin; east longitude $8^{\circ} 35'$, and north latitude 45° .

CASAL MAJOR, a town of the Milanese, situated on the north side of the river Po, about twenty miles east of Cremona; east longitude 11° , and north latitude $45^{\circ} 5'$.

CASAN, or **KASAN**, a province of Russia, lying between the province of Moscow on the west, and Siberia on the east.

CASBIN, or **CASWIN**, a city of Persia, in the province of Eyrac Agem, about one hundred and eighty miles north of Isfahan: east long. 48° , and north lat. 46° .

CASCABEL, the knob or button at the end of the breech of a cannon. See **CANNON**.

CASCADE, a steep fall of water from a higher into a lower place.

They are either natural, as that at Tivoli, &c. or artificial, as those of Versailles, &c. and either falling with gentle descent, as those of Sceaux; or in form of a buffet, as at Trianon; or down steps, in form of a perron, as at St. Clou; or from basin to basin, &c.

CASCAIS, a town of Estremadura, in Portugal, situated at the mouth of the river Tagus, seventeen miles east of Lisbon: west longitude $10^{\circ} 15'$, and north latitude $38^{\circ} 40'$.

CASCANS, in fortification, holes in form of wells, serving as entries to galleries to give vent to the enemies mines.

CASCHAW, or **CASSOVIA**, a city of upper Hungary, situated on the river Horat, seventy-eight miles north east of Buda: east longitude $20^{\circ} 35'$, and north latitude 40° .

CASE, *casus*, among grammarians, implies the different inflections or terminations of nouns, serving to express the different relations they bear to each other, and to the things they represent.

There is great diversity among grammarians, with regard to the nature and number of cases: they generally find six, even in most of the modern languages, which they call the nominative, genitive, dative, accusative, vocative, and ablative; but this seems in compliance with their own ideas of the greek and latin, which they transfer to their own languages. The termination is not the sole criterion of a case, for though some authors reckon five cases of nouns in the greek, and six in the latin; yet several of

of these cases are frequently alike : as the genitive and dative singular of the first and fifth declensions of the latin ; the dative and ablative plural of all the declensions, &c. the genitive and dative dual of the greek, &c.

The english and many other modern languages express the various relations not by changes in the terminations, as the antients, but by the apposition of articles : it is certainly wrong to say, that of a *father* is the genitive case of *father*, and to a *father* the dative ; for *of* and *to* are no part of the word *father*, they are only articles or modifications, which shew the different relation of the word *father*.

CASE, among printers, denotes a sloping frame, divided into several compartments, containing a number of types or letters of the same kind.

From these compartments the compositor takes out each letter as he wants it, to compose a page or form. Thus they say a case of pica, of greek, &c.

CASE of crown-glass contains usually twenty-four tables, each table being nearly circular, and about three feet six inches diameter.

Case of Newcastle glass contains thirty-five tables ; of Normandy glass twenty-five.

CASE HARDENING, a method of preparing iron, so as to render its outer surface hard, and capable of resisting any edged tool. This is a lesser degree of steel-making, and is practised by baking, calcination, or cæmentation in an oven or other close vessel, stratified with charcoal, and powdered hoofs and horns of animals, so as to exclude the air. See **STEEL**.

CASE-SHOT, in the military art, musket-ball, stones, old iron, &c. put into cases, and shot out of great guns.

CASEMENT, or **CASEMATE**, in architecture, a hollow moulding, which some architects make one sixth of a circle, and others one fourth.

CASEMATE, or **CAZEMATE**, in fortification. See the article **CAZEMATE**.

CASERNS, in fortification, lodgings built in garrison towns, generally near the rampart, or in the waste places of the town, for lodging the soldiers of the garrison.

There are usually two beds in each casern for six soldiers to lie, who mount the guard alternately ; the third part being always on duty.

CASERTA, a city of the province of Lavoro, in the kingdom of Naples, about

sixteen miles north of the city of Naples : east longitude $15^{\circ} 5'$, and north latitude $41^{\circ} 10'$. It is a bishop's see.

CASES RESERVED, in the polity of the roman church, atrocious crimes, the absolution of which is reserved by the superiors to themselves or their vicars. There are cases reserved by the pope, who formerly gave the absolution in person, but now delegates that power to certain bishops and priests : cases reserved by the bishops in convents, some by the chapters ; but at the point of death, all reserved cases are absolvable by the ordinary.

The cases reserved by the pope, according to the ritual of Paris, are, 1. The wilful burning of churches, and also of other places, if the incendiary is publicly proclaimed. 2. Actual simony. 3. The murder or mutilation of a person in holy orders. 4. The striking a bishop or other prelate. 5. Furnishing arms to the infidels. 6. Falsifying the bulls or letters of the pope. 7. Invading or pillaging the lands of the church. 8. Violating an interdiction of the pope.

CASH, in the commercial stile, signifies the stock of money, which a merchant, trader, or banker has at his disposal in order to trade. Thus we say, the cash of such a banker amounts to ten, twenty, or thirty thousand pounds.

CASH-BOOK. See the article **BOOK**.

CASHAN, or **KASHAN**, a city of the province of Eyrac-Agem, in Persia, about one hundred miles north of Isphahan : east long. 50° , and north lat. 34° .

CASHELL, or **CASHILL**, a city of the county of Tipperary, in Ireland, about eighty miles south-west of Dublin : west long. $7^{\circ} 40'$, and north lat. $52^{\circ} 16'$. It is a bishop's see.

CASHEW-NUT, the fruit of the acajoutree, reckoned by Linnæus a species of anacardium. See the articles **ACAJOU** and **ANACARDIUM**.

CASHIER, a person who is entrusted with the cash of some public company. See the articles **CASH** and **COMPANY**.

CASI, in the persian policy, one of the two judges under the nadab, who decide all religious matters, grant all divorces, and are present at all public acts, having deputies in all the cities of the kingdom. See the article **NADAB**.

CASING of timber work, among builders, is the plastering a house all over on the outside with mortar, and then striking it while wet by a ruler with the corner of a trowel, to make it resemble the joints of

of free-stone. Some direct it to be done upon heart laths, because the mortar would, in a little time, decay the sap laths; and to lay on the mortar in two thicknesses, *viz.* a second before the first is dry.

CASK, a vessel of capacity, for preserving liquors of divers kinds; and also sometimes dry goods, as sugar, almonds, &c.

A cask of sugar is a barrel of that commodity, containing from eight to eleven hundred weight. A cask of almonds is about three hundred weight.

A cask mounted is that which is ready bound with all its hoops, its bottom, and bars.

A cask in staves, that of which all the staves are ready prepared, and want only to be joined and hooped. They are often shipped thus on board the vessels designed for the american islands, because they take less room, and can be easily made up there.

CASK, in heraldry, the same with helmet.

CASKETS, on board a ship, small ropes made of sinnet, and fastened to gromets or little rings upon the yards. Their use is, to make fast the sail to the yard, when it is to be furled.

Breast **CASKETS** are the longest or biggest of these caskets, or those in the midst of the yard betwixt the ties.

CASPIAN-SEA, a large sea, or lake of Asia, bounded by the province of Astracan on the north, and by part of Persia on the east, south, and west. It is upwards of four hundred miles long from south to north, and three hundred miles broad from east to west.

CASSANO, a fortress, in the Milanese, in Italy, situated on the river Adda, about twelve miles north-east of Milan: east long. 10° , and north latitude $45^{\circ} 20'$.

CASSATION, among civilians, the act of annulling any act or procedure. The reasons of cassation are, 1. When a decree is directly contrary to another decree, and both against the same party. 2. When the decrees are contrary to the express decision of statutes and customs. 3. When the formalities, prescribed by the laws, have not been observed.

Cassation is properly a term in the courts of France, the laws of which country require the party, that sues for a cassation, to deposit four hundred and fifty livres, which sum is forfeited if he fails in his suit.

CASSAVI, or **CASSADA**, the same with the jatropha of Linnæus. See **JATROPHA**.

Of the root of this plant, which is oblong and thick, the Americans make a kind of bread, said to be a wholesome and nourishing food.

CASSEL, the capital of the landgravate of Hesse-Cassel, in the circle of the upper Rhine, in Germany, situated on the river Fulde: east longitude $9^{\circ} 20'$, and north latitude $51^{\circ} 20'$.

CASSEL is also the name of a town in french Flanders, about fifteen miles south of Dunkirk: east longitude $2^{\circ} 30'$, and north latitude $50^{\circ} 5'$.

CASSIA, in botany, a genus of the decandria-monogynia class of plants; the flower of which consists of five hollow roundish petals, the lower ones larger and more distant than the others; the fruit is an oblong pod, divided by transverse septa: the seeds are numerous, roundish, and affixed to the upper edges of the valves.

Cassia is divided into three species; the cassia fistula, the cassia lignea, and the cassia caryophyllata. The first is the cassia of the shops, the soft fresh pulp of which is an excellent mild cathartic: it is given, with success, in inflammatory fevers, and in disorders of the breast, kidneys, and bladder. The cassia lignea, or cassia bark, much resembles the cinnamon: it is a stomachic and cordial, but possesses these virtues in a less degree than cinnamon; it is also used in the venice-treacle, mithridate, &c. The third, being the cassia caryophyllata, or clove bark, is a stomachic, carminative, and alexipharmic. See the articles **CARYOPHYLLUS** and **CARMINATIVE**.

CASSIDA, in zoology, a genus of insects of the order of the coleoptera, with filiform or thread-like antennæ, thickened towards the extremities: add to this that the thorax is plain and marginated. Of this genus there are a great many species, some green, some grey, but most black; all which have been confounded, by authors, with the beetles, and called in english tortoise-beetles.

CASSIMERE, the capital city of a province of the same name in the hither India: east longitude 75° , and north latitude 35° . It was once the capital of a kingdom, and is still sometimes the residence of the mogul.

CASSINE, the **CASSIA-BERRY-TREE**, in botany, a genus of the pentandria-digynia class of plants: the flower of which is patent, divided into five suboval, oblong segments larger than the cup; the fruit

fruit is a roundish berry with three cells, containing solitary suboval seeds. This plant is used in south America in the same manner as tea.

CASSIOPEIA, in astronomy, a constellation of the northern hemisphere, situated opposite to the great bear, on the other side of the pole. The stars of this constellation, in Ptolemy's catalogue, are thirteen; in Tycho's, twenty-eight; and in Mr. Flamsteed's, fifty-six.

In the year 1572, a remarkable new star appeared in this constellation, surpassing *siurius* or *lyra* in brightness and magnitude. It appeared even bigger than *jupiter*, which, at that time, was near his perigee, and by some was thought equal to *venus*, when she is in her greatest lustre; but, in a month, it began to diminish in lustre, and, in about eighteen months, entirely disappeared.

CASSIS, the **HELMET-SHELL**, in natural history, a species of *murex*. See the article **MUREX**.

CASSITERIA, in the history of fossils, a genus of crystals, the figures of which are influenced by an admixture of some particles of tin.

The *cassiteria* are of two kinds: the whitish pellucid *cassiterion*, and the brown *cassiterion*; the first is a tolerably bright and pellucid crystal, and seldom subject to the common blemishes of crystal: it is of a perfect and regular form, in the figure of a quadrilateral pyramid, and is found in Devonshire and Cornwall principally. The brown *cassiterion* is like the former in figure: it is of a very smooth and glossy surface, and is also found in great plenty, in Devonshire and Cornwall.

CASSOCK, or **CASSULA**, a kind of robe or gown, wore over the rest of the habit, particularly by the clergy.

The word *cassock* comes from the french *casaque*, an horseman's coat; some derive that again from the garment of the *Cof-faques*.

CASSOWARY, in ornithology, makes a distinct genus of birds, of the order of the *gallinæ*; the characters of which are these: its feet have each three toes, all placed forward; and its head is ornamented with a kind of bony comb and naked wattles.

There is only one species of this genus, which is a robust, large, and thick bird, measuring four feet and an half when it stretches out its neck. See plate XXXVII. fig. 6.

CASSUMBAZAR, a town of India, in Asia, situated on the river Ganges, in the province of Bengal: east longitude 37° , and north latitude 24° .

CASSUMUNAR, in the materia medica, a root approaching to that of *zedoary*. It is cardiac and sudorific, and famous in nervous cases: it is also an ingredient in many compositions, and is prescribed in powders, bolusses, and infusions. Its dose is from five to fifteen grains.

CASSYTA, in botany, a genus of the triandria-monogynia class of plants; the calyx of which is a small permanent perianthium, divided into three indentures: the corolla consists of a single petal, divided into three segments; the fruit is an oval berry, consisting of one cell, in which is a single seed.

CASTANEA, the **CHESNUT**, in botany, is comprehended by Linnæus under *fagus*. See the article **FAGUS**.

CASTANET, a musical instrument of the pulsative kind, wherewith the *Mobres*, *Spaniards*, and *Bohemians* accompany their dances, *farabands*, and *guittars*, serving only to direct the time.

It consists of two little round pieces of wood, dried and hollowed, in the manner of a spoon; the concavities whereof are placed on one another, fastened to the thumb, and beat, from time to time, with the middle finger, to direct their motions and cadences: they may beat eight or nine times in the space of a measure or second of a minute.

CASTANOVITZ, a town of Croatia, situated on the river Unna, which divides Christendom from Turkey: east longitude $17^{\circ} 20'$, and north latitude $45^{\circ} 40'$.

It is subject to the house of Austria,

CASTEL-ARAGONESE, a fortress of Sardinia, situated on the north-west coast of that island: east longitude $8^{\circ} 45'$, and north latitude 41° .

CASTEL-BAR, a town of Ireland, in the county of Mayo, and province of Connaught, about thirty-eight miles north of *Gallway*: west long. $9^{\circ} 24'$, north lat. $53^{\circ} 25'$.

CASTEL BRANCO, a city of the province of Beira, in Portugal, about ninety-five miles north-east of *Lisbon*: east long. 8° , north latitude $39^{\circ} 35'$.

CASTEL DE VIDE, a town of Alentejo, in Portugal, about twelve miles east of *Portalegre*, and thirty-five west of *Alcantara*: west longitude $7^{\circ} 40'$, north latitude 39° .

CASTEL-RODRIGO, a town of Portugal, in

- in the province of Tralofmontes, situated thirty miles north-west of the city Rodrigo: west long. 7° , north lat. 41° .
- CASTELLA**, a town of the Mantuan, in Italy, about five miles north-east of the city of Mantua: east longitude $11^{\circ} 15'$, north latitude $45^{\circ} 30'$.
- CASTELLAN**, the name of a dignity or charge in Poland: the castellans are senators of the kingdom, but senators only of the lower class, who, in diets, sit on low seats, behind the palatines, or great senators. They are a kind of lieutenants of provinces, and command a part of the palatinate under the palatine.
- CASTELLANY**, the territory belonging to any city or town, chiefly used in France and Flanders: thus we say, the castellany of Lisle, Ypres, &c.
- CASTIGLIONE**, a fortified town in the dutchy of Mantua, about twenty miles north-west of the city of Mantua: east longitude 11° , north latitude $45^{\circ} 15'$.
- CASTILE**, the name of two inland provinces of Spain, situated almost in the middle of that kingdom: the most southerly one is called New Castile, and the other, towards the north, Old Castile; Madrid being the capital of the former, and Burges of the latter.
- CASTILE DE ORO**, a name given by the Spaniards to a province of Terra Firma, on their first planting it.
- CASTILLAN**, or **CASTILLANE**, a gold-coin, current in Spain, and worth fourteen rials and sixteen deniers.
- CASTILLAN** is also a weight used in Spain for weighing gold. It is the hundredth part of a pound spanish weight. What they commonly call a weight of gold in Spain, is always understood of the castillan.
- CASTILLARA**, a town of the Mantuan, in Italy, situated six miles north-east of the city of Mantua: east long. $11^{\circ} 25'$, north lat. $45^{\circ} 20'$.
- CASTILLON**, a town of Perigort, in the province of Guienne, in France, situated on the river Dordonne, sixteen miles east of Bourdeaux: west long. $2^{\circ} 40'$, north latitude $44^{\circ} 50'$.
- CASTING**, in foundery, the running of a metal into a mould, prepared for that purpose.
- CASTING of candles**, is the filling the mould with tallow.
- CASTING of lead on cloth**, is the using a frame, or mould, covered with woolen cloth, and linen over it, to cast the lead into fine sheets.
- CASTING of metals, of letters, bells, figures, &c.** See the article **FOUNDRY**.
- CASTING in sand or earth**, is the running of metals between two frames, or moulds, filled with sand or earth, wherein the figure that the metal is to take, has been impressed *in creux*, by means of the pattern.
- CASTING in stone or plaster**, is the filling with fine liquid platter a mould that has been taken in pieces off a statue, or other piece of sculpture, and run together again.
- CASTING**, in falconry, any thing that is given a hawk to cleanse and purge his gorge: of these there are two sorts, feathers and cotton; the latter whereof is given in pellets, about the bigness of a hazel-nut, conveyed into his gorge after he hath supped. If, in the morning, he has cast them out round, while not stinking, nor very waterish, he may be concluded to be sound; if otherwise, he is unsound. The casting of plumage is observed after the same way as that of cotton.
- CASTING**, in joining, &c. Wood is said to be cast or warped, when either by its own drought, or moisture of the air, or other accidents, it shoots or shrinks, altering its flatness or straightness, and becoming crooked.
- CASTLE**, a fortress or place rendered defenceable, either by nature or art. A castle is a fort, or little citadel. See the article **CITADEL**. It frequently signifies with us the principal mansion of noblemen. In the time of Henry II. there were no less than 1115 castles in England, each of which contained a manor.
- CASTLE**, in the sea-language, is a part of the ship, of which there are two, the fore-castle, being the elevation at the prow, or the uppermost deck, towards the mizen, the place where the kitchens are. Hind-castle is the elevation which reigns on the stern, over the last deck, where the officers cabbins and places of assembly are.
- CASTLE-CAREY**, a market-town of Somersetshire, situated ten miles south east of Wells: west longitude $2^{\circ} 40'$, north latitude $51^{\circ} 15'$.
- CASTLE-RISING**, a borough town of Norfolk, situated near the sea coast, about thirty miles west of Norwich, and seven north of Lynn: east longitude 40° , north latitude $52^{\circ} 46'$. It sends two members to parliament.
- CASTLE-WARD**, or **CASTLE-GUARD**, a tax

tax laid on such as dwell within a certain distance of a castle, towards the maintenance of those that watch and ward the castle: the word is sometimes used for the circuit itself, inhabited by such as are subject to this service.

CASTLE-WORK, service or labour done by inferior tenants, for the building and upholding of castles of defence, towards which some gave their personal assistance, and others paid their contributions. This was one of the three necessary charges to which all lands, among our saxon ancestors, were expressly subject.

CASTON, a market-town of Norfolk, about eight miles north-west of Norwich: east long. $1^{\circ} 20'$, north lat. $52^{\circ} 45'$.

CASTOR, the **BEAVER**, in zoology, a genus of quadrupeds, of the order of the glires, the feet of which have each five toes, and the hinder ones are formed for swimming.

Under this genus are comprehended,

1. The beaver, properly so called, with a black, flat, and oval tail: this species produces this castoreum.
2. The castor, with a flat, lanceolated, or oblong tail, called by Clusius the exotic water-rat.
3. The round-tailed great water-rat. See plate XXXVII, fig. 7. which represents the common beaver.

CASTOR, in astronomy, a moiety of the constellation of gemini, called also Apollo. See the article **GEMINI**.

CASTOR and **POLLUX**, two meteors which sometimes, in a storm at sea, appear sticking to some part of the ship, in the shape of two fire-balls; when only one is seen, it is more properly called *Helena*. The two together are adjudged to portend a cessation of the storm: but one alone portends ill, and that the severest part of the tempest is yet to come: both these balls are by some called *Tyndarides*.

CASTOR is also the name of a market-town of Lincolnshire, twenty miles north-east of Lincoln: west longitude $12'$, and north latitude $53^{\circ} 30'$.

CASTOREUM, **CASTOR**, in the materia medica, is by many mistaken for the testicles of the castor or beaver, though in fact, a peculiar secreted matter, contained in bags destined to receive it, in the manner of the musk and civet: yet situated differently in the animal. See the article **CASTOR**.

Castoreum is an indurated substance, formed of a matter once fluid, the thinner part of which has been evaporated in

drying. It is a light and friable matter, of a moderately lax texture, and of a deep dusky brown colour. It is of a somewhat acrid and bitterish taste, and of a strong, and, to many people, a very disagreeable smell. It is brought to us in the bags which naturally contain it while in the animal: and these so much resemble the testicles of an animal both in their dry state, and when on the body of the creatures, that we are not to wonder people who had not examined their situation on the animal really took them for such. These bags are always joined together; they are equal in size and of an oblong form; they are placed side by side in their natural situation in one bag, which contains them both. This bag is sometimes sent over to us with them, but much oftener they are sent without it, the custom of the people, who sell it to the merchants, being to take out the two bags from the common membrane, and hang them up in a chimney to dry. In which operation they acquire the brown colour we see them of, their original one being a pale flesh colour.

It is a very valuable medicine, of great use in hysteric cases, and in all disorders of the nerves. It attenuates visciduous humours, promotes the menses, and resists putrefaction. It is good also in epilepsies, palsies, and all complaints of that kind. See the article **CASTOR**.

CASTRATION, in surgery, the operation of gelding.

It was prohibited by a decree of the senate of Rome under Hadrian; and the cornelian law subjected the person who performed the operation, to the same penalties as the person on whom it was performed, although it was done with his consent.

Castration is much in use in Asia and Turkey, where it is practised upon the slaves, to prevent any commerce with their women. In Italy, castration is frequent from another motive, namely, to preserve the voice for singing. It is sometimes found necessary in chirurgical cases, as in a sarcocele and cancer of the testicles. For the method, therefore, of performing this operation, see the article **SARCOCELE**.

CASTREL, or **KESTREL**, a sort of hawk which in shape resembles the lanner, but in size the hobby. Her game is the grouse; but as she is a slow cowardly bird, she is not much used.

CASTRES, a city of Languedoc, in France, about thirty-five miles east of Tholouse : east longitude 2° , and north latitude $43^{\circ} 40'$.

It is a bishop's see.

CASTRO, the capital of the island of Chiloe, on the coast of Chili, in south America : west long. 82° , south latit. 43° .

CASTRO is also the capital of a duchy of the same name in the pope's territories, in Italy, situated on the confines of Tuscany : east longitude $12^{\circ} 35'$, north latitude $42^{\circ} 30'$.

CASTRO is likewise a town in the territory of Otranto, in the kingdom of Naples, about seven miles south of Otranto : east longitude $19^{\circ} 25'$, north latitude $40^{\circ} 8'$.

CASTRO MARINO, a town in the province of Algarva, in Portugal, situated near the mouth of the river Guadiana, on the confines of Andalusia, west long. $8^{\circ} 15'$, north latitude 37° .

CASU CONSIMILI, in law, a writ of entry granted where a tenant, by courtesy or for life, aliens either in fee, in tail, or for the term of another's life. It is brought by him in reversion against the person, to whom such tenant does so alien to the prejudice of the reversioner, in the tenant's life time.

CASU PROVISIO, in law, a writ of entry founded on the statute of Gloucester, where a tenant in dower aliens the lands she so holds in fee, or for life; and lies for the party in reversion against the alienee.

CAT, *felis*, a well-known quadruped, of the order of the ferox, or beasts of prey. See the article **FELIS**.

The domestic cat is diversified with an almost infinite variety of colours and streaks; but the natural colour, in a wild state, is a brown tawney, variegated with streaks of a pale whitish colour. In France, the cats are all of a bluish lead-colour; and, in the north of Europe, they are all over white. See plate XXXVIII. fig. 1. which represents the common cat.

CAT-MINT, in botany, the english name of the nepeta of botanists. See **NEPETA**.

CAT-HARPINGS, in a ship, small ropes running in little blocks from one side of the shrouds to the other, near the deck. Their use is to force the shrouds, and make them taught, for the more security and safety of the masts.

CAT, or **CAT-HEAD**, on shipboard, a short piece of timber in a ship, lying aloft right over the hawse, having at one end

two shivers, wherein is reeved a rope; with a great iron hook fastened to it, called

CAT-HOOK. Its use is to trice up the anchor, from the hawse to the top of the fore-castle.

CAT-ROPE. See the article **ROPE**.

CAT-HOLES, in a ship, are over the parts as right with the capstan as they can be: their use is to heave the ship astern, upon occasion, by a cable, or a hawse, called stern fast. See the article **STERN-FAST**.

CAT of the mountain, *catus pardus*, an animal of the cat-kind, about the size of a mastiff, variegated with longitudinal black streaks on the upper part of the body, and black spots on the under part. See plate XXXVIII. fig. 2.

CATABIBAZON, in astronomy, the moon's descending node, called also dragon's tail. See the article **NODE**.

CATACAUSTIC CURVES, in the higher geometry, that species of caustic curves which are formed by reflection. See the article **CAUSTIC CURVE**.

These curves are generated after the following manner. If there be an infinite number of rays as AB, AC, AD, &c. (plate XXXVIII. fig. 3.) proceeding from the radiating point A, and reflected at any given curve BDH, so that the angles of incidence be still equal to those of reflection; then the curve BEG, to which the reflected rays BI, CE, DF, &c. are tangents continually, as in the points I, E, F, is called the catacaustic curve.

If the reflected IB be produced to K, so that AB=BK, and the curve KL be the evolute of the catacaustic BEG, beginning at the point K; then the portion of the catacaustic BE=AC-AB+CE-BI continually. Or if any two incident rays as AB, AC be taken, that portion of the caustic that is evolved while the ray AB approaches to a coincidence with AC, is equal to the difference of those incident rays+the difference of the reflected rays. When the given curve is a geometrical one, the catacaustic will be so too, and always rectifiable.

The catacaustic of a circle is a cycloid, formed by the revolution of a circle along a circle. The caustic of the vulgar semi-cycloid, when the rays are parallel to the axis is also a vulgar cycloid, described by the revolution of a circle upon the same base. The caustic of the logarithmic spiral is the same curve, only set in a different position.

CATACHRESIS, in rhetoric, a trope which

Fig. 1. CAT.



Fig. 2. CAT of the Mountain.



Fig. 7.
CATHETERS.

Fig. 3. CATACAUSTIC CURVE.

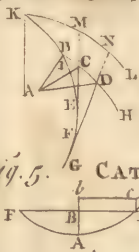


Fig. 4. CATANANCE.



Fig. 5. CATENARIA.

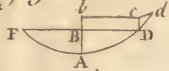


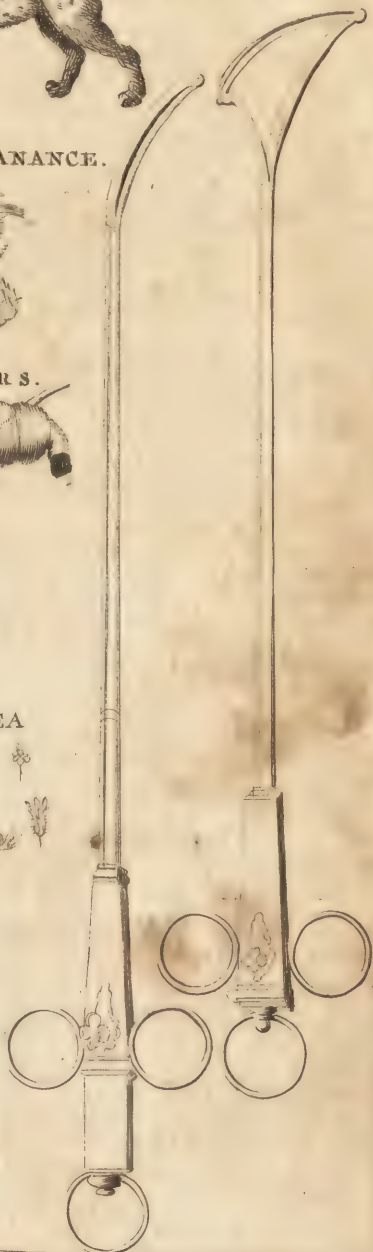
Fig. 6. CATERPILLARS.



Fig. 8. CENTAUREA



Fig. 9. CAUCALIS.





which borrows the name of one thing to express another. Thus Milton describing Raphael's descent from the empyreal heaven to paradise, says,

"Down thither prone in flight

"He speeds, and thro' the vast ethereal
"sky

"Sails between worlds and worlds.

CATACOMB, a grotto or subterraneous place for the burial of the dead.

The term is particularly used in Italy, for a vast assemblage of subterraneous sepulchres, three leagues from Rome, in the *via appia*, supposed to be the sepulchres of the antients. Others imagine these catacombs to be the cells wherein the primitive christians hid themselves. Each catacomb is three foot broad, and eight or ten high, running in form of an alley or gallery, and communicating with one another.

Some authors suppose them to have been the *puticuli* mentioned by Festus Pompeius, into which the Romans threw the bodies of their slaves, to whom they denied the honours of burying: and Mr. Monro, in the philosophical transactions, gives it as his opinion, that the catacombs were the burial places of the first Romans, before the practice of burning the dead was introduced; and that they were dug in consequence of these opinions, that shades hate the light, and love to hover about the place where their bodies were laid.

CATACOUSICS, an appellation given to the doctrine of reflected sounds, called also cataphonics.

CATADIOPTRICAL TELESCOPE, that otherwise called a reflecting one. See the article TELESCOPE.

CATADUPA, a water-fall, or cataract. See the article CATARACT.

Hence the inhabitants about the cataracts of the Nile, were called catadupi by the antients.

CATAFALCO, in architecture, a decoration of sculpture, painting, &c. raised on a timber scaffold, to shew a coffin or tomb in a funeral solemnity.

CATALEPSY, *catalepsis*, in medicine, the same with catoche. See CATOCHE.

CATALLIS CAPTIS NOMINE DISTRICTIONIS, in law, a writ which lies where a house is within a borough, for rent issuing out of the same: and this writ warrants the taking of doors or windows by way of distress.

CATALLIS REDENDIS, a writ that lies where goods being delivered to persons to

keep until a certain day, are not on demand delivered on that day.

CATALOGUE, a list or enumeration of the names of several books, men, or other things, according to a certain order.

In compiling a catalogue of all the authors who have wrote on any particular branch of science, Morhof gives it as his opinion, that it should exhibit a synopsis of all the books in that science, whether published or in manuscript; that the names of the authors should be ranged in the order of the years when their works were published; and, thirdly, that a catalogue should be added of the works themselves, in the order of time also; and that each of these should comprehend a summary, not only of the chapters, but of the contents of these chapters. We have likewise, in the same author, an account of the most remarkable catalogues, and writers of catalogues, of different nations, to which we refer those who desire to be more fully informed in this subject.

CATALOGUE of the stars, is a list of the fixed stars disposed in their several constellations, with the longitudes and latitudes of each.

The most renowned composers of these catalogues are, 1. Ptolemy, who added his own observations to those of Hipparchus Rhodius, about the year of Christ 880. 2. Ulugh Beigh made a catalogue of the fixed stars in 1437. 3. Tycho Brahe determined the places of 777 stars for the year 1600. 4. William Landgrave of Hesse, with his mathematicians, determined the places of 400 fixed stars. 5. In the year 1667, Dr. Halley, in the island of St. Helena, observed 350 not visible in our horizon. And, 6. J. Hevelius, adding his own observations to those of the antients, and of Dr. Halley, made a catalogue of 1888. But the last and greatest is the britannic catalogue, a performance the most perfect of its kind, compiled from the observations of the accurate Mr. Flamsteed, who with all the talents and apparatus requisite for such an undertaking, devoted himself to that work for a long series of years. It contains 2734 stars.

CATALONIA, a province of Spain, bounded by the Pyrenean mountains, which divide it from France, on the north; by the Mediterranean, on the east and south; and by the provinces of Aragon and Valencia, on the west.

CATAMENIA, in medicine, the same with the menses. See **MENSES**.

CATAMITE, a boy kept for sodomitical practices. See the article **SODOMY**.

CATANANCE, or **CATANANCHE**, in botany, a genus of plants belonging to the syngenesia-polygamia class, the compound flower of which is often imbricated and uniform: the proper flower is monopetalous, ligulated, linear, longer than the cup, truncated and quinque-dentated: there is no pericarpium. The seeds are solitary, compressed, and crowned with a little cup of four or five hairs. See plate XXXVIII. fig. 4.

CATANIA, a city and port-town of Sicily, about thirty-five miles north of Syracuse; near the foot of mount *Ætna*: east longitude 15° , north latitude 38° .

CATAPAN, a name given by the greek emperors to the governor of Puglia and Calabria in Italy. They succeeded the exarchs of Ravenna; and Du Cange is of opinion, a chronological table of these governors might be very serviceable for understanding the byzantine historians.

CATAPASM, among antient physicians, signifies any dry medicine reduced to powder, in order to be used by way of inspiration in the whole body, or any part of it. Some catapasmis are appropriated to ulcers, some to the skin: the former cicatrize, the latter are detesive. We learn from Pliny, that catapasmis of roses were used to restrain sweat, and to dry the body after bathing.

CATAPELTÆ, or **CATAPULTA**, in antiquity. See the article **CATAPULTA**.

CATAPHONICS, the science which considers the properties of reflected sounds. See the article **ECHO**.

CATAPHORA, in medicine, the same as coma. See the article **COMA**.

CATAPHRACTA, in antiquity, a kind of coat of mail, which covered the soldier from head to foot.

Hence cataphracti were horsemen armed with the cataphracta, whose horses, as Sallust says, were covered with linen full of iron plates disposed like feathers.

CATAPHRACTUS, or **POGGE**, in zoology. a fish of the cottus-kind, with an octagonal body, and a great many cirri, or beards. See the article **COTTUS**.

CATAPHRYGIANS, antient heretics, who took their name from the country of Phrygia. They suppose the holy spirit had abandoned the church, and therefore that Montanus, as a prophet, and Prif-

cilla and Maximilla, as true prophesses, were to be consulted in every thing relating to religion.

CATAPLASM, an external topical medicine, of a soft consistence, and prepared of ingredients of different virtues, according to the intention of the physician. Hence there are different sorts of cataplasms, with respect to the matter of which they consist, as emollient, resolvent, discutient, suppurative, corroborative, anodyne and antiseptic cataplasms. They are commonly applied hot, or lukewarm, rolled up in linen cloths, which by means of the oils which are added, preserve heat for a considerable time; for which end also some, upon these, apply a swine or ox's bladder, and sometimes on the top of all, apply an earthen tile. Some cataplasms are prepared by boiling over a fire, others not; whence they are distinguished into crude and boiled. Of the former, are green plants bruised and reduced to a pulp, or dried and reduced to a powder, which is mixed with a convenient quantity of oil or other proper liquor. Those prepared by fire, are bruised or pounded plants boiled to a softness, and then boiled over again to the thickness of pap, with a sufficient quantity of mucilage, meal and fat, oil, butter, ointment, leaven, bread, honey, &c. In preparing cataplasms of milk, with an intention of mollifying, it is necessary not to boil them too much, because milk is inspissated by decoction, and the thin parts of it are dissipated. Observe also to choose the newest and richest milk that can be got.

CATAPULTA, in antiquity, a military engine contrived for the throwing of arrows, darts, and sometimes stones upon the enemy.

Some of these engines were of such force, that they would throw stones of an hundred weight. Josephus takes notice of the surprising effects of these engines, and says, that the stones thrown out of them beat down the battlements, knocked off the angles of the towers, and would level a whole file of men, from one end to the other, were the phalanx never so deep.

The catapulta differed from the ballista, in that the latter threw stones only, whereas the former threw chiefly darts and javelins. See the article **BALLISTA**.

CATARACT, in hydrography, a precipice in the channel of a river, caused by rocks,

rocks, or other obstacles, stopping the course of the stream, from whence the water falls with a greater noise and impetuosity: such are the cataracts of the Nile, the Danube, Rhine, and the famous one of Niagara in America.

CATARACT, in medicine and surgery, a disorder of the humours in the eye, by which the pupilla, that ought to appear transparent and black, looks opaque, grey, blue, brown, &c. by which vision is variously impeded, or totally destroyed.

The ordinary and most common cause of cataracts, is from an opacity in the crystalline lens: it appears that it may sometimes be caused by a membrane in the aqueous humours, which cause was the only one ascribed to cataracts, till the present century.

Cataracts have been distinguished by surgeons and oculists into various species as into recent and inveterate, incipient and confirmed, mature and immature, simple and complicated, immoveable and shaking, milky and purulent, true and spurious, and into curable and incurable. There is scarce any disorder, the event of which is more uncertain, than that of a cataract: medicines will generally have little or no effect, when the disorder is confirmed, or inveterate, notwithstanding what some may boast of their wonderful *arcana* for this purpose: almost the sole relief is therefore had from the surgeon's hand and instruments. For the process of this operation, see the article **COUCHING of a cataract**.

Tho' most people reject all methods of treating cataracts by medicines, as useless and trifling, yet there are some cases in this disorder, which ought to be recommended to the care of the physicians, who, by directing a proper regimen and course of physic, adapted to the patient's habit, age, and other circumstances, may, by the assistance of nature, remove cataracts beyond expectation.

CATARO, the capital of a territory of the same name, in the venetian Dalmatia, about twenty-five miles south-east of Ragusa: east longitude 19° 20', north latitude 42° 25'.

CATARRH, in medicine, a distillation or effusion from the head upon the mouth and aspera arteria, and through them upon the lungs.

The cause of this disorder proceeds from the lymph or mass of blood, most frequently in the winter time, as it com-

monly arises from a cold. If it is attended with a fever, as it almost always is, in some degree, it is called a catarrhus fever. The catarrhus suffocativus, is a violent and suffocating cough, excited either by an excessive catarrh, or cold; by the rupture of a vomica in the lungs; by a polypus driven from the heart into the pulmonary artery; or, sometimes, by a spasmodic constitution of the nerves, as it happens in some hysterical cases.

Catarrhus disorders, as well as all other feverish indispositions, are to be treated in a mild and gentle manner; and the patient is to be kept moderately warm, either in bed, or by means of a fire: he is to abstain from medicines which are too hot, drastic, and productive of commotions; as also from a hot regimen. The diet is to be spare, and the drink tepid and wholesome: the most proper is excoriated barley, with shavings of hartshorn, raisins, and liquorice root.

When the effervescence is violent, a few grains of nitre may be advantageously mixed with the bezoardic powders; and emulsions must be plentifully drunk: when during this disorder the fæces are indurated, and the patient costive, besides water-gruel, decoctions of manna, &c. are to be drunk; and nothing is more proper than emollient clysters.

Some distinguish catarrhs into three kinds, calling it branchus, when the humours of the head fall upon the jaws; coryza when they fall upon the nostrils; and rheum, when they fall on the breast.

CATARRH of the spinal marrow, in medicine, a falling out of the marrow of the back-bone, which happens when certain lymphatic vessels are broken.

CATARRHAL, something belonging to a catarrh: thus we say, a catarrhal fever, a catarrhal flux, &c.

CATASTASIS, *καταστάσις*, in poetry, the third part of the ancient drama, being that wherein the intrigue, or action, set forth in the epitasis, is supported and carried on, and heightened, till it be ripe for the unravelling in the catastrophe. Scaliger defines it, the full growth of the fable, while things are at a stand in that confusion to which the poet has brought them.

CATASTROPHE, in dramatic poetry, the fourth and last part in the ancient drama, or that immediately succeeding the catastasis: or, according to others, the third only; the whole drama being divided

divided into protasis, epistasis, and catastrophe; or in the terms of Aristotle, prologue, epilogue, and exode.

The catastrophe clears up every thing, and is nothing else but the discovery or winding up of the plot. It has its peculiar place, for it ought entirely to be contained, not only in the last act, but in the very conclusion of it; and when the plot is finished, the play should be so too. The catastrophe ought to turn upon a single point, or start up on a sudden.

The great art in the catastrophe is, that the clearing up of all difficulties may appear wonderful, and yet easy, simple, and natural.

It is a very general, but very preposterous, artifice of some writers, to shew the catastrophe in the very title of the play. Mr. Dryden thinks that a catastrophe resulting from a mere change in sentiments and resolutions of a person, without any other machinery, may be so managed, as to be exceeding beautiful. It is a dispute among the critics, whether the catastrophe should always fall out favourably on the side of virtue, or not. The reasons on the negative side seem the strongest: Aristotle prefers a shocking catastrophe to a happy one. The catastrophe is either simple or implex; the first is that in which there is no change in the state of the principal persons, nor any discovery or unravelling, the plot being only a mere passage out of agitation into quiet and repose. In the second, the principal persons undergo a change of fortune, in the manner already defined.

CATCH, or **CATCHES**, in a clock, those parts which lay hold of others by hooking, or catching hold of them.

CATCH-FLY, in botany, a name given to the lychnis. See the article **LYCHNIS**.

CATCH-LAND, such land, particularly in Norfolk, which is not certainly known to what parish it belongs; so that the minister, who first seizes the tythes, does, by right of pre-occupation, enjoy them for that year.

CATCH-POLE, or **CATCH-POLLE**, a term used, by way of reproach, for the bailiff's follower, or assistant. See the article **BAILIFF**.

Formerly it was a term of credit applied to those now called serjeants of the mace, bailiffs, &c.

CATCH-WORD, among printers, that placed at the bottom of each page; being always the first word of the following page.

CATECHISM is defined in the liturgy of the church of England, an institution to be learned of every person, before he be brought to be confirmed by the bishop. The catechisms of the primitive church usually began with the doctrine of repentance and remission of sins, the necessity of good works, and the nature and use of baptism; then followed the explanation of the several articles of the creed, to which some added the doctrine of the immortality of the soul, and an account of the canonical books of scripture.

The catechism of the church of England is drawn up after the primitive manner by way of question and answer: originally it consisted of no more than a repetition of the baptismal vow, the creed, and the Lord's prayer; but king James I. ordered the bishops to add to it a short and plain explication of the sacraments. The time appointed for catechizing, are sundays and holidays. Every parson, vicar, or curate, are enjoined, upon every sunday and holiday, to teach and instruct the youth, and ignorant persons of his parish, in the catechism, set forth in the book of common-prayer; and that under the penalty of a sharp reproof for the first omission, suspension for the second, and excommunication for the third.

CATECHIST, an officer in the primitive christian church, whose business it was to instruct the catechumens in the first principles of religion, and thereby prepare them for the reception of baptism.

This office might be performed by an ecclesiastic of any order, and it was sometimes done by the bishop himself.

CATECHU, in the materia medica, improperly called *terra japonica* in the shops, is a concreted vegetable juice, partly of the gummy, partly of the resinous kind.

The common catechu of the shops, is brought to us in large, flat cakes, from Malabar, Surat, Pegu, and other parts in the East-Indies.

It is prepared from the parts of several different trees of the same astringent virtue, and is affirmed by some to be the lycium of the antients. The catechu is a very valuable astringent. It strengthens the stomach, assists digestion, and stops fluxes, diarrhoeas, and even dysenteries, as also hæmorrhages of all kinds, and particularly profluvia of the menses. Its dose is from five or six grains to a scruple. It may be given in almost any form.

CATECHUMEN, a candidate for baptism.

tism, or one who prepares himself for the receiving thereof.

The catechumens, in church-history, were the lowest order of christians in the primitive church. They had some title to the common name of christian, being a degree above pagans and heretics, tho' not consummated by baptism. They were admitted to the state of catechumens, by the imposition of hands, and the sign of the cross. The children of believing parents were admitted catechumens, as soon as ever they were capable of instruction: but at what age those of heathen parents might be admitted, is not so clear. As to the time of their continuance in this state, there were no general rules fixed about it; but the practice varied according to the difference of times and places, and the readiness and proficiency of the catechumens themselves.

There were four orders or degrees of catechumens; the first were those instructed privately without the church, and kept at a distance, for some time, from the privilege of entering the church, to make them the more eager and desirous of it. The next degree were the *audientes*, so called from their being admitted to hear sermons and the scriptures read in the church, but were not allowed to partake of the prayers. The third sort of catechumens were the *genuflectentes*, so called because they receive imposition of hands kneeling. The fourth order was the *competentes & electi*, denoting the immediate candidates for baptism, or such as were appointed to be baptized the next approaching festival, before which strict examination was made into their proficiency under the several stages of catechetical exercises.

After examination, they were exercised for twenty days together, and were obliged to fasting and confession: some days before baptism they went veiled, and it was customary to touch their ears, saying *ephata*, i. e. be opened; as also, to anoint their eyes with clay; both ceremonies being in imitation of our Saviour's practice, and intended to shadow out to the catechumens their condition both before and after their admission into the christian church.

CATEGATE, SCAGERAC-SEA, the passage from the german ocean to the Sound, or the entrance into the Baltic sea, between Sweden and Denmark.

CATEGOREMA, among logicians, de-

notes much the same with predicament or category. See the article CATEGORY.

CATEGORICAL, whatever partakes of the nature of a category. Thus, a categorical order, requires the substance to go before the accident. And categorical answers are pertinent and precise replies to the facts or objections proposed. See the article CATEGORY.

CATEGORY, *κατηγορία*, in logic, a series or order of all the predicates or attributes contained under any genus.

The school philosophers distribute all the objects of our thoughts and ideas into certain *genera* or classes, not so much, say they, to learn what they do not know, as to communicate a distinct notion of what they do know; and these classes the Greeks called categories, and the Latins predicaments.

Aristotle made ten categories, *viz.* substance, quantity, quality, relation, action, passion, time, place, situation, and habit, which are usually expressed by the following technical distich.

Arbor, sex, servos, ardore, refrigerat, usus,

Ruri, cras, stabo, nec tunicatus ero.

But as the series of categories is entirely arbitrary, some philosophers think all nature may be better considered under these seven things, spirit, matter, quantity, substance, figure, motion, and rest: and others make but two categories, substance and accident.

CATENA, in a general sense, denotes a chain. See the article CHAIN.

CATENA, in anatomy, a name used by some for the muscle, more commonly called *tibialis anticus*. See TIBIALIS.

CATENA PATRUM, in matters of literature, a book exhibiting the sentiments of the antient christian fathers, with respect to all or most doctrines.

These catenæ are very numerous, some being compiled with judgment, fidelity, and accuracy; and others with just the reverse qualities.

CATENARIA, in the higher geometry, the name of a curve line formed by a rope hanging freely from two points of suspension, whether the points be horizontal or not. The nature of this curve was sought after in Galileo's time, but not discovered till the year 1690, when Mr. Bernoulli published it as a problem. Dr. Gregory, in 1697, published a method of investigation of the properties formerly discovered by Mr. Bernoulli and Mr. Leibnitz, together

gether with some new properties of this curve. From him we take the following method of finding the general property of the catenaria. 1. Suppose a line heavy and flexible, the two extremes of which F and D (plate XXXVIII. fig. 5.) are firmly fixed in those points; by its weight it is bent into a certain curve F A D, which is called the catenaria.

2. Let B D and $b c$ be parallel to the horizon, A B perpendicular to B D, and D c parallel to A B, and the points B b infinitely near to each other. From the laws of mechanics, any three powers in equilibrio, are to one another as the lines parallel to the lines of their direction, (or inclined in any given angle) and terminated by their mutual concourses: hence if D d express the absolute gravity of the particle D d (as it will if we allow the chain to be every way uniform) then D c will express that part of the gravity that acts perpendicularly upon D d ; and by the means of which this particle endeavours to reduce itself to a vertical position: so that if this lineola $d c$ be constant, the perpendicular action of gravity upon the parts of the chain, will be constant too, and may therefore be expressed by any given right line.

Further, the lineola D c will express the force which acts against that conatus of the particle D d , by which it endeavours to restore itself in a position perpendicular to the horizon, and hinders it from doing so. This force proceeds from the ponderous line D A drawing according to the direction D d ; and is, cæteris paribus, proportional to the line D A which is the cause of it. Supposing the curve F A D, therefore, as before, whose vertex is A, axis A B, ordinate B D, fluxion of the axis D C = B b , fluxion of the ordinate $d c$, the relation of these two fluxions is thus, viz, $d c : D d :: a : D A$ curve, which is the fundamental property of the curve, and may be thus expressed (putting A B = x and B D = y and A D = c)

$$y = \frac{ax}{c}.$$

CATERGI, the name of the public carriers in the grand signior's dominions. In Europe, the merchant or traveller gives earnest to the carrier, but the catergi in Turkey gives earnest to the merchant and others, as a security that they will certainly carry their goods, or not set out with them.

CATERLAGH, a town of Ireland, in the

county of Caterlagh, and province of Leinster, situated on the river Barrow about sixteen miles north-east of Kilkenny: west long. 7°, north lat. 52° 45'.

CATERPILLAR, *eruca*, in zoology, the name of the butterfly-class of insects, in their reptile or worm-state.

It is well known, that all winged insects pass through a reptile state, before they arrive at perfection: this great change from a worm to a fly, or butterfly, was formerly esteemed a real metamorphosis of one animal to another; but later discoveries have put it beyond all doubt that the embryo butterfly, with all the lineaments of its parent, is contained within the external cases or coverings of the caterpillar. When the included animal has acquired a sufficient degree of strength, these coverings are thrown off and it appears in its genuine or most perfect form of a fly, or butterfly. See the articles FLY and BUTTERFLY.

It is necessary, however, before the animal can get rid of these coverings, that it pass through a state of rest, called by naturalists the nymph or chrysalis-state. See the articles NYMPH and CHRYSALIS. Whoever desires to have a more full account of these animals in their reptile and chrysalis-state, may consult the second volume of Reaumur's History of insects, and for a view of three several species of caterpillars. See plate XXXVIII. fig. 6.

CATERPILLAR-EATERS, small worms bred from the eggs of certain flies, lodged in the bodies of larger caterpillars.

CATERPILLAR-PLANT, in botany, the name by which some call the *scorpioides* or *scorpiurus* of botanists. See the article SCORPIURUS.

CATERPILLAR-SHELL, the english name of the verrucose *turbo*, with a broad and depressed mouth. See TURBO.

CATESBÆA, in botany, a genus of the tetrandria-monogynia class of plants, the flower of which is monopetalous, and of a funnel-form; the fruit is an oval crowned berry, with one cell, containing several angulated seeds.

CATHÆRETICS, in pharmacy, the same with sarcophagous medicines, or those of a caustic nature, serving to ex-off proud flesh. See the articles SARCO-PHAGOUS and CAUSTICS.

CATHARINE, or *Knights of St. CATHARINE*, a military order, instituted in 1063 for the security of travellers who came to visit the tomb of this saint on Mount Sinai. The knights received, as a badge

of their dignity, a broken wheel with a sword stained with blood. They took vows to guard the body of this saint, to secure the roads for pilgrims, to defend the rights of the church, to obey their superiors in all things, and follow the rule of St. Basil.

The *Fraternity of St. CATHARINE of Sienna*, is a sort of religious society instituted in that city, in honour, and under the patronage, of St. Catharine of Sienna, a saint famous for her revelations, and for her amours and marriage with Jesus Christ: whose wedding ring, given her by her divine spouse, is still preserved as an unexceptionable relic.

The fraternity of St. Catharine gives portions yearly to a certain number of maids left unprovided for; who, on condition hereof, accept of husbands. In order to match them, a fine procession is made of the girls, who are to be thus endowed; and during the march, the young men, who are willing to be suitors, present them an handkerchief. If the maid return it as she received it, it imports that the offer is rejected. If she tie it in a knot, the bargain is made, and the parents themselves cannot hinder it: by reason such matches are supposed to come from heaven, and to be made by St. Catharine herself. The same fraternity has also a privilege of redeeming annually two criminals condemned for murder; and it sets at liberty the same number of debtors, by paying their debts.

CATHARTICS, in medicine, remedies which promote evacuation by stool. They are the same with what are commonly called purgatives.

Cathartics may be divided into two classes, 1. The ecoprotic or milder; 2. The drastic, or rougher.

They are likewise divided according as they are supposed to purge bile, pituita, melancholly, and serosities, into cholagogues, phlegmagogues, melanagogues, and hydragogues. See the article **CHOLAGOGUES**, &c.

Cathartics operate by vesicating and irritating the fibres and membranes of the stomach and intestines. As the peristaltic motion of the guts is such as propels continually their contents, from the pylorus down to the rectum, every irritation either quickens that motion, in its natural order, or occasions some little inversion of it; in both, what but slightly adheres to the coats, or inner membranes, will be loosened and shook off, and carried for-

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wards with the contents; and being also more agitated, will be rendered more fluid; hence it appears how a cathartic hastens and increases the discharge by stools. But the same manner of operation carries its effects much farther, in proportion to the force of the stimulus; for where it is great, the appendices of the bowels, and even all the viscera in the abdomen, will, by a consent of parts, that is, a communication of nerves, be pulled or twitched, so as to affect their respective juices, in the same manner as the intestines themselves affect their contents. The consequences, therefore, must be, that a great part will be drained back into the intestines, and make a part of what they discharge. Another way of promoting the discharges by stool, from fusions, is to mix such particles with them as prevent their running into viscid cohesions, and, by degrees, divide and break them when in contact; whence they are rendered fitter to run off by the most convenient outlets.

CATHEDRA, among ecclesiastical writers, denotes a bishop's see, or throne. Hence,

ExCATHEDRA, a phrase much used among the clergy of the romish church, in relation to the solemn decrees of the pope, delivered with all possible formality, he being deemed infallible then only when he speaks, in this manner, *ex cathedra*: tho' others, particularly of the gallican church, allow only of his infallibility when he presides, or issues decrees at the head of a general council; and others, when he speaks agreeably to the scriptures and truth of things; but these last quite overthrow it, every other man being, in this sense, equally infallible with the pope.

CATHEDRAL, a church wherein is a bishop's see or seat.

A cathedral was originally different from what it is now, the christians, till the time of Constantine, having no liberty to build any temple. By their churches they only meant their assemblies; and by their cathedrals, nothing more than consistories.

By a canon of the fifth council of Carthage, it is ordered, that every bishop shall have his residence at his principal, or cathedral church, which he shall not leave, to betake himself to any other church in his diocese; nor continue upon his private concerns to the neglect of his cure, and hindrance of his frequent-

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ing the cathedral church. Yet Justinian, in Novels vi. cap. 2. says, "No bishop shall be absent from his church above a whole year, unless he has the emperor's command for it." Which implies that a bishop might be absent from his cathedral a year in ordinary cases, and more in extraordinary.

CATHERINE, or **CATHARINE**. See the article **CATHARINE**.

CATHETA, or **CATHETUS**. See the article **CATHETUS**.

CATHETER, in surgery, a fistulous instrument, usually made of silver, to be introduced into the bladder, in order to search for the stone, or discharge the urine when suppressed.

The catheter may be introduced with much more ease in women than in men, as the urethra in the first is much shorter, wider, and in a straighter course. In both sexes, however, this instrument cannot be easily passed, but by one that is previously acquainted with the anatomical structure of the parts.

To prevent repeating the operation of passing the catheter when the retention of urine will follow in a short time, modern surgeons have, instead of the common of rigid catheter, provided a flexible catheter, made of flattened silver, convoluted in a particular manner, as in plate XXXVIII. fig. 7. to give a continual passage to the urine.

M. Le Cat, surgeon at Rouen has likewise invented a new steel grooved catheter, for performing lithotomy in a manner, akin to Celsus's, or upon the gripe, two views of which are exhibited in the above mentioned plate and figure; both being one third of the size which the instrument ought to be made of.

CATHETOLIPES, in natural history, an order of octohedral selenitæ, with perpendicular plates and obtuse angles. It is composed of two horizontal planes, or a top and bottom, and four trapezia, two on each side, divided by an obliquely-placed and scarcely distinguishable ridge, it rising very little above the surface; and almost leaving the sides in single instead of double trapezia. It is short and thick in proportion to its breadth, and is found for the most part, of about an inch in length, an inch in breadth, and not much less in thickness: its ends are truncated, a little slanting, and leave two smooth glossy planes. It consists of a vast number of tolerably thin flakes, laid evenly and regularly in a transverse or-

der, and perpendicular to the length of the mass, and these are each composed of a considerable number of moderately large filaments: the whole is fissile, according to the direction of the flakes, though not according to the direction of the fibres that compose them, without great force. The flakes are of an opaque whitish hue in the mass, but appear more pellucid when separated. The whole is moderately heavy, and will neither give fire with steel, nor ferment with aqua fortis. It is found in the Staffordshire clay-pits, in the loam-pits at Hedgerly, and near Oxford.

CATHETUS, in geometry, a line or radius falling perpendicularly on another line or surface: thus the catheti of a right angled triangle are the two sides that include the right angle.

CATHETUS of incidence, in catoptrics, a right line drawn from a point of the object, perpendicular to the reflecting line.

CATHETUS of reflection, or *of the eye*, a right line drawn from the eye, perpendicular to the reflecting line.

CATHETUS of obliquation, a right line drawn perpendicular to the speculum, in the point of incidence or reflection.

CATHETUS, in architecture, a perpendicular line, supposed to pass through the middle of a cylindrical body, as a baluster, column, &c.

In the ionic capital, the cathetus is a perpendicular line passing through the middle of the eye of the volute. See **AXIS**.

CATHNESS, the most northerly county of Scotland, having the caledonian ocean on the north, east, and south-east, and the shire of Sutherland on the south and west. Its capital is Wick.

CATHOLIC, in a general sense, denotes any thing that is universal or general.

CATHOLIC CHURCH. The rise of heresies induced the primitive christian church to assume to itself the appellation of catholic, being a characteristic to distinguish it from all sects, who, though they had party-names, sometimes sheltered themselves under the name of christians.

The romish church distinguishes itself now by the name of catholic, in opposition to all those who have separated from her communion, and whom she considers as only heretics and schismatics, and herself only as the true and christian church. In the strict sense of the word, there is no catholic church in being, that is, no universal christian communion.

CATHOLIC KING, a title which hath been hereditary to the kings of Spain, ever since

since Alphonfus, who having gained several victories over the Sarracens, and re-established the christian faith in Spain, was honoured with the title of catholic. Some say it was in the time of Ferdinand and Isabella.

CATHOLIC FURNACE is a little furnace so contrived as to be fit for all kinds of operations which do not require an intense fire.

CATHOLICON, in pharmacy, a kind of soft purgatory electuary, so called, as being supposed an universal purger of all humours.

KATKIN, or **KATKIN**, a cluster of flowers affixed to an axis; being the same with an amentaceous flower. See the article **AMENTACEOUS**.

CATLIN, among surgeons, a knife for cutting off corrupted parts of the body.

CATOCH, the name of a cape, or promontory, of the province of Yucatan, in Mexico: west longitude 89° , and north latitude $21^{\circ} 30'$.

CATOCHE, or **CATOCHEUS**, in medicine, a disease, by which the patient is rendered, in an instant, as immoveable as a statue, without either sense or motion, and continues in the same posture he was in at the moment he was seized. The proximate cause of this disease is the immobility of the common sensory, from the time of the first attack, and therefore is an absolute rest of the blood in the brain, of the glands of the brain, and of all its emissaries. This disease is generally preceded by obstinate intermitting fevers; by a dry, lean, melancholy temperament of body; by a retention of the menses and hæmorrhoids; by sudden frights; by a profound, constant, and fixed meditation on one subject. It is often cured by exciting a copious hæmorrhage from the nose; but the particular method of cure is various, according to the different causes: the patient should be excited with things that greatly strike the senses, such as light, noise, stimulating things, volatile salts, pain, friction, continual agitations, by promoting the menstrual flux, by stenuatories, and emetics, by blisters, by issues, by setons, by a moistening diet. It seldom changes to any other disease, and sometimes it has been succeeded by an epilepsy, convulsions, madness, or an atrophy, which have ended in death.

CATOCYSTI, in the history of shell fish, an order or division of the sea-hedge; hogs, or *echini marini* of authors, with

the aperture of the anus in the base of the shell.

CATODON, in ichthyology, a genus of fishes, of the order of the *plagiuri*, the characters of which are these: they have no teeth in the upper jaw, nor any fin on the back.

Of this genus there are two species, 1. The sperma-ceti whale, called by authors *cete*, *cetus dentatus*, and *balena major*, with the above-mentioned characters, and the fistula in the neck. 2. The catodon with the fistula in the snout, called by authors *balena minor*.

CATOPSIS, in medicine, the same with *myopia*. See the article **MYOPIA**.

CATOPTRICS, that part of optics that treats of reflex vision, and explains the laws and properties of reflection, chiefly founded upon this truth, that the angle of reflection is always equal to the angle of incidence; and from thence deducing the magnitudes, shapes, and situations of the appearances of objects seen by the reflection of polished surfaces, and particularly plane, spherical, conical and cylindrical ones: but this doctrine being a part of optics, see the article **OPTICS**.

CATOPTRIC CISTULA, a machine, or apparatus, whereby small bodies are represented extremely large, and near ones extremely wide, and diffused through a vast space, and other agreeable phenomena, by means of mirrors, disposed by the laws of catoptrics, in the concavity of a kind of chest.

Of these there are various kinds accommodated to the various intentions of the artificer; some multiply objects, some deform them, some magnify, &c.

CATOPTRIC DIAL, a dial that exhibits objects by reflected rays. See the article *Reflecting DIAL*.

CATOPTRIC, or **CATA-DIOPTRIC TELESCOPE**, a telescope that exhibits objects by reflection. See the article *Cata-dioptric*, or *Reflecting TELESCOPE*.

CATOPTROMANCY, a kind of divination among the antients, consisting in the application of a mirror. Pausanias says, it was used by the Achæians, where those who were sick, let down a mirror, fastened by a thread into a fountain, before the temple of Ceres; then looking in the glass, if they saw a ghastly face they took it as a sure sign of death; on the contrary, if the face appear fresh and healthy, it was a sign of recovery. Sometimes it was performed by a vessel of

water, the middle of which was called *gagen*, whence the divination was called *gaitromancy*. See *GASTROMANCY*.

CATTIVO, in music, as *cattivo tempo*, a certain part of the measure wherein it is not proper to perform certain things as to end a cadence, or place a long syllable. It properly signifies what we call the unaccented part of the bar, and is the second and last note in common time, and the middle one of every three in triple.

CATTLE, a collective name importing all quadrupeds, used either in tilling the ground, or for the food of man. Under *grail*, some include all quadrupeds which associate, or go in herds, as sheep, oxen, horses, hogs, &c. Others define cattle to be all tame animals which graze. Cattle is sometimes divided into great, comprehending oxen, bulls, cows, calves, horses, &c. and small, including sheep, lambs, goats, and the like.

Black CATTLE, the same with the ox-kind. See the article *Bos*.

Stealing of cattle is felony without benefit of clergy, and that to the accomplices as well as the principals, by stat. 14, 15, and 16 Geo. II. where, under cattle are comprehended a bull, cow, ox, steer, bullock, heifer, calf, sheep, and lamb; and no other quadrupeds.

CATUS-PARDUS, or **CATUS-MONTANUS**, in zoology. See the article *CAT of the mountain*.

CATZENELLIBOGEN, a city of Hesse, situated upon the upper Rhine, in Germany, about sixteen miles north of Mentz: east longitude $7^{\circ} 40'$, north lat. $50^{\circ} 20'$. It is the capital of a county of the same name.

CAVA, or **VENA CAVA**, in anatomy, a vein arising with a large sinus from the right auricle of the heart. It there sends out a vein to the heart itself, called the coronary vein, and is divided into two trunks, a superior and an inferior; from the superior trunk of the vena cava there arise the following veins, the azygos, the bronchial, the mediastinal, the superior diaphragmatic, and the subclavians: the inferior trunk of the vena cava is remarkable for the valves, and from this arise the diaphragmatic, or inferior phrenic veins, the renal veins, the right spermatic, the sacra, and the iliacs. See *VEIN*, and each of these under its proper head.

CAVA, in geography, a town of Italy, in the kingdom of Naples, about four miles from Salerno.

CAVALCADE, a pompous procession of horsemen, equipages, &c. by way of parade to grace a triumph, public entry, or the like. See the article *CARROUSAL*.

CAVALIER, in fortification, an elevation of earth, of different shapes, situated ordinarily in the gorge of a bastion, bordered with a parapet, and cut into more or less embrasures, according to the capacity of the cavalier.

Cavaliers are a double defence for the faces of the opposite bastion: they defend the ditch, break the besiegers galleries, command the traverses in dry moats, scower the salient angle of the counterscarpe where the besiegers have their counter-batteries, and inflade the enemies trenches, or oblige them to multiply their parallels: they are likewise very serviceable in defending the breach, and the retrenchments of the besieged, and can very much incommode the entrenchments which the enemy make, being lodged in the bastion.

CAVALIER, in the manege, one that understands horses, and is practised in the art of riding them.

CAVALRY, a body of soldiers that charge on horseback, and may properly be called the right arm of the army: they are of great service in disturbing the enemy by their frequent excursions, in intercepting convoys, and destroying the country.

The cavalry is divided into squadrons, and encamp on the wings of the army. Too great a number of cavalry may prove prejudicial to an army; for as they consume a great deal of forage, they may oblige a general to decamp from an advantageous post.

CAVAN, the capital of a county of the same name, in the province of Ulster, in Ireland, situated about sixty miles north west of Dublin: west longitude $7^{\circ} 35'$, north latitude 54° .

CAVAZION, or **CAVASION**, in architecture, denotes the hollow trench made for laying the foundation of a building, which, according to Palladio, ought to be one sixth part of the height of the whole building.

CAUCALIS, in botany, a genus of the pentandria-digynia class of plants, the universal flower of which is disform and radiated; the proper flower of the disk is male, small, and composed of five inflexo-cordated equal petals; the proper flower of the radius is hermaphrodite and composed of five inflexo-cordated unequal petals,

tals, the exterior one being larger than the rest and bifid: the fruit is of an oblate-oblong figure, striated longitudinally, with rigid scabrous bristles: the seeds are two, oblong, convex on one side and armed with prickles in order of the striæ, and plane on the other side. See plate XXXVIII. fig. 9.

CAUCASUS, a vast ridge of mountains, running from the lesser Asia through the north of Persia to the East Indies; these acquire different names in the several countries through which they pass.

CAUDA, in a general sense, denotes the tail of an animal. See the article **TAIL**.

CAUDA, among some anatomists, denotes the clitoris of the female pudendum. See the article **CLITORIS**.

CAUDA DRACONIS, the **DRAGON'S-TAIL**, in astronomy, the name of the moon's descending node. See the article **NODE**.

CAUDA LEONIS, in astronomy, a star of the first magnitude in the tail of the constellation leo. See the article **LEO**.

CAUDEBEC, a city of Normandy, in France, situated on the north side of the river Seine, about sixteen miles west of Rouen: east longitude 45', and north latitude 49° 32'.

CAVE, a subterraneous hollow place of a certain extent.

Some authors distinguish between a cave and a cavern, making the first the effect of art, and the latter of nature.

The caves in Wiltshire, between Luckington and Great-Badmington, nine in number, of a row, of several dimensions, the least four feet broad, and nine or ten feet long, are credibly supposed to be the tombs of some heroic men among the antient Romans, Saxons, and Danes, because spurs, and pieces of armour have been dug out of them.

CAVEAR, **CAVEER**, or **CAVIARY**, the spawn, or hard roes of sturgeon, made into small cakes, an inch thick, and of an hand's breadth, salted, and dried in the sun. This sort of food is in great repute throughout Muscovy, because of their three lents, which they keep with a superstitious exactness; wherefore the Italians settled at Moscow, drive a very great trade in this commodity throughout that empire, because there is a prodigious quantity of sturgeon taken at the mouth of the Wolga, and of the other rivers which fall into the Caspian sea. There is a pretty large quantity of this commodity consumed in Italy, and they are very well ac-

quainted with it in France and England, where it is reckoned no despicable dish.

The French and Italians get the cavear from Archangel, but they seldom get it at the first hand, for they commonly buy it of the English and Dutch.

CAVEAT, in law, a kind of process in the spiritual courts, to stop the proving of a will, the granting letters of administration, &c. to the prejudice of another. See the article **PROBATE**.

It is also used to stop the institution of a clerk to a benefice.

CAVEATING, in fencing, is the shifting the sword from one side of that of your adversary to the other.

Caveating is a motion whereby a man brings in an instant his sword which was presented on any side of his adversary's, generally beneath his hilt, to the opposite side; either from within, to without, or *vice versa*; or from having its point high, to be low, or the reverse; and either on the same side it is presented in, or the opposite side.

Caveating is so necessary a motion in fencing, that without it, there could be scarce any offensive part, or pursuit. It is withal so easily performed against the ordinary tierce and quart guards, that it gives a constant opportunity to make a variety of quick subtle feints against them, which by reason of the small cross made by the weapons on these guards, makes the pursuit very easy, and the parade or defence very difficult.

The consideration of this put Sir William Hope on the search of a new method or guard, which, by reason of its greater cross on the adversary's sword, renders the caveating, and making feints more slow, and consequently the parade more certain.

CAVEDO, in commerce, a Portuguese long measure, equal to 27 $\frac{35}{100}$ english inches.

CAVERN, denotes much the same with grotto. See the article **GROTTO**.

CAVERNOSE, among anatomists, an appellation given to several parts of the body, on account of their spongy structure: thus the cavernosa corpora of the penis are two spongy bodies, made up of a number of small caverns or cells. These are the two bodies which constitute the penis; they arise distinct and separate on each side of the ossa pubis, as it were from peculiar thalami: after this they join, and, in that original state, are carried

ried into the glans. If any liquid matter be impelled into these, or if they be inflated, the penis becomes rigid. These two bodies are also termed corpora spongiosa.

CAVESON, or **CAVEZON**. See the article **CAVEZON**.

CAVETTO, in architecture, a hollow member, or round concave moulding, containing a quadrant of a circle, and having a quite contrary effect to that of a quarter-round: it is used as an ornament in cornices.

Mr. Felibien takes notice, that workmen confound the cavetto with a scotia, but improperly, the cavetto being in fact only half a scotia. See the article **SCOTIA**.

CAVEZON, in the manege, a sort of nose-band, either of iron, leather, or wood, sometimes flat, and at other times hollow or twisted, clapt upon the nose of a horse, to wring it, and so forward the suppling and breaking of the horse.

An iron-cavezon is a semicircle or band of iron, consisting of two or three pieces joined by hinges, and mounted with a head-stall, a throat-band, and two straps or reins with three rings; one rein passes through the middle ring, when we mean to make a horse walk round a pillar; through the two side-rings we pass the two reins, which the rider holds in his hand, or makes fast to the saddle, in order to keep the horse's head in subjection, &c.

CAVILLON, a town of Provence in France, situated on the river Durance, about fifteen miles south of Avignon: east longitude 5°, and north latitude 43° 50'.

It is a bishop's see, and subject to the pope.

CAVIN, in the military art, a natural hollow, fit to lodge a body of troops: if there happen to be any near a place besieged, it is of great use to the besiegers; for by the help of such a place they can open the trenches, make places of arms, or keep guards of horse, without being in danger of the enemies shot.

CAVITY, in a general sense, denotes any hollow: and hence anatomists have divided the body into three cavities or venters, and the limbs; the cavities are the head, the thorax, and the abdomen. See the article **ABDOMEN**, &c.

The cavities of the bones, Heister observes, are of two kinds, those of the articulations, and those answering other purposes, and called cells, caverns, *foramina* or

apertures, *fossæ* or deep channels, and *fulci* or shallow ones.

CAUK, or **CAWK**, a term used among miners, for a coarse sparry stone, of a white colour, found in the lead-mines. See the article **SPAR**.

CAUKING, or **CAULKING** of a ship, is driving oakum, or the like, into all the seams of the planks of a ship, to prevent leaking and keep out the water.

CAULKING-IRONS, are iron chissels for that purpose.

Some of these irons are broad, some round, and others grooved.

After the seams are stopped with oakum, it is done over with a mixture of tallow, pitch, and tar, as low as the ship draws water.

CAUKING-TIME, in falconry, a hawk's treading time.

CAUL, among miners, a reddish pink-coloured stone, found in the tin-mines.

CAUL, in anatomy, a membranaceous part of the abdomen, covering the greatest part of the guts, usually furnished with a large quantity of fat, placed under the peritonæum, and immediately over the intestines, called by some authors rete, or reticulum, from the number of holes appearing in it, when raised, and giving it the resemblance of a net; but it is most frequently called omentum. See the article **OMENTUM**.

CAUL is also a little membrane, found on some children, encompassing the head, when born.

Some take this to be only a fragment of the membranes of the foetus, which generally break at the birth of the child.

CAULICOLES, or **CAULICOLI**, are eight lesser branches or stalks, in the corinthian capital, springing out from four greater or principal cauls, or stalks.

The eight volutes of this order are sustained by four cauls, or primary branches, of leaves, and from which these caulicoles or lesser foliages do arise.

CAULIFEROUS, an appellation given to such plants as have a perfect caulis or stem. See the article **CAULIS**.

CAULIFLOWERS, in gardening, a much esteemed species of *brassica*, or cabbage. See the article **BRASSICA**.

Cauliflowers have of late years been so much improved in England, as to exceed in goodness and magnitude any produced in most parts of Europe, and, by the skill of the gardener, are continued for several months together, but the most

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common season for them is in May, June, and July.

In order to have very early cauliflowers, we should make choice of a good rich spot of ground, that is well defended from the north, east, and west winds, with hedges, pales, or walls: this ground should be well trenched, burying therein a good quantity of rotten dung; the ground should then be levelled; and if it be naturally a wet soil, you should raise it up in beds, about two feet and a half or three feet broad, and four inches above the level of the ground. In planting your cauliflowers you should allow about two feet six inches distance from glass to glass in the rows, always putting two good plants under each glass, which may be at about four inches from each other; and if you design them for a full crop, they may be three feet and a half row from row: but if you intend to make ridges for cucumbers or melons between the rows of the cauliflowers, as is generally practised by the gardeners near London, you must then make the rows eight feet asunder.

CAULINE, in a general sense, denotes any thing belonging to the caulis or stalk of plants. See the article **CAULIS**.

CAULINE LEAF, among botanists, that growing from the stalk of a plant.

CAULIS, among botanists, denotes the stalk of herbaceous plants: this, in trees, is called *caudex*, or trunk; and, in grasses, *culmus*, or stem.

CAUSA MATRIMONII PRÆLOCUTI, in common law, a writ that lies where a woman gives land to a man in fee, to the intent he shall marry her, and he refuses to do it in a reasonable time, being thereunto required by the woman: and in such case, for not performing the condition, the entry of the woman into the lands again, has been adjudged lawful. The husband and wife may sue this writ against another, who ought to have married her.

CAUSA NOBIS SIGNIFICES, in law, a writ directed to the mayor of a town, &c. who being by the king's writ commanded to make seisin of lands to the king's grantee, delays so doing. This writ requires him to shew cause why he makes delay.

CAUSALTY, among metaphysicians, the action or power of a cause in producing its effect.

It is a dispute among the school-philosophers, whether, and how, the causality

is distinguished from the cause and the effect? some hold it a mode or modal entity, superadded to the cause, &c. others contend for its being the cause itself. See the article **CAUSE**.

CAUSALTY, among miners, denotes the lighter, sulphureous, earthy parts of ores, carried off in the operation of washing.

This, in the mines, they throw in heaps upon banks, which, in six or seven years, they find it worth their while to work over again. See **ORE** and **WASHING**.

CAUSE, *causa*, that from whence any thing proceeds, or by virtue of which any thing is done: it stands opposed to effect. We get the ideas of cause and effect, says Mr. Locke, from our observation of the vicissitude of things, while we perceive some qualities or substances begin to exist, and that they receive their existence from the due application and operation of other beings. That which produces, is the cause, and that which is produced, the effect: thus, fluidity in wax is the effect of a certain degree of heat, which we observe to be constantly produced by the application of such heat.

First CAUSE, that which acts of itself, and of its own proper power or virtue: God is the only first cause in this sense.

Second CAUSES are those which derive the power and faculty of action from a first cause: these are improperly called causes, in regard they do not, strictly speaking, act at all, but are acted on: of this kind are all those that we term natural causes. Philosophers are divided as to the action whereby second causes produce their effects: some maintain, that the causality cannot be produced, since it is that which produces: others will have them to act truly by their action; but they are at a loss still about that action: some do not allow that corporeal substances can produce any thing but accidents: the system of Avicenna is, that God produces, immediately, a most perfect (spiritual substance; this produces another, less perfect; that, a third; and thus to the last; which last produces all the corporeal substances; and those corporeal substances, accidents: as to the manner of their agency, some maintain, that the substantial form of second causes produces forms, and the accidental ones, accidents: others, that forms produce other forms and accidents; and others, that accidents alone are capable of producing accidents and forms.

Causes

Causes are distinguished, by the schools, into efficient, material, final, and formal.

Efficient CAUSES are the agents employed in the production of any thing.

Material CAUSES, the subjects whereon the agents work ; or the materials whereof the thing is produced.

Final CAUSES are the motives inducing an agent to act ; or the design and purpose for which the thing was done.

Lord Bacon says, that the final cause is so far from being serviceable, that it corrupts the sciences, unless it be restrained to human actions : however, continues he, final causes are not false, nor unworthy of inquiry in metaphysics : but their excursions into the limits of physical causes hath made a great devastation in that province ; otherwise, when contained within their own bounds, they are not repugnant to physical causes.

Formal CAUSE, the change resulting from the action ; or that which determines a thing to be this, and distinguishes it from every thing else : thus, the soul is held the formal cause of man.

Causes are again distinguished into physical and moral.

Physical CAUSE, that which produces a sensible corporeal effect ; as the sun is the physical cause of light : others define it, that which produces its effect by a physical virtue.

The cartesians resolve all physical causes into occasional ones.

Occasional CAUSES, therefore, are only the occasions, not the direct causes of their effects. See the article OCCASION.

The soul, say these philosophers, is not able to act on the body ; nor the body, reciprocally, on the soul : to keep up an intercourse between them, God, on occasion of the motion of the body, impresses a sensation on the soul ; and an occasion of a sentiment of the soul, impresses a motion on the body ; the motions therefore of the soul and body, are only occasional causes of what passes in the one or in the other ; thus, say they, the stroke or percussion is only the occasional cause of the motion produced in the body struck : it is God, who is the direct efficient cause, &c.

Moral CAUSE, that which produces a real effect, but in things immaterial ; as repentance is the cause of forgiveness. A moral cause is also defined, that which determines us, though not necessarily, to

do, or not to do, any thing ; as advice, intreaties, commands, menaces, &c.

It is to be observed, that, in this sense, a moral cause is only applicable to a free intelligent agent : It is also observable, that the latter notion of a physical as well as a moral cause is the most just, clear, and distinct.

Causes are again distinguished into universal, or particular ; principal, or instrumental ; total or partial ; univocal, equivocal, &c.

Equivocal CAUSE, that which is of a different kind and denomination from its effect : thus it is, the sun is said to be the cause of animal life.

Instrumental CAUSE, that made use of by the principal, to produce its effect ; or that which is excited to produce an effect beyond the measure of its own perfection : some will have all secondary causes to be instrumental ones.

Partial CAUSE, that which concurs with some other in producing the effect.

Particular CAUSE, that which can only produce a single effect, or a certain kind of effect.

Principal CAUSE, that which gives motion to the instrument, or which does not operate beyond its own natural efficacy.

Total CAUSE, that which produces the whole effect.

Univocal CAUSE, that which is of the same kind and denomination with its effect ; as, love is the cause of love.

Universal CAUSE, that which, by the extent of its power, may produce all effects.

CAUSE, among civilians, the same with action. See the article ACTION.

CAUSEWAY, or **CAUSEY**, a massive construction of stones, stakes, and fascines ; or an elevation of fat viscous earth, well beaten ; serving either as a road in wet marshy places, or as a mole to retain the waters of a pond, or prevent a river from overflowing the lower grounds.

CAUSTICS, in physic, an appellation given to medicines of so hot and fiery a nature, that, being applied, consume, and, as it were, burn the texture of the parts, like hot iron.

Caustics differ from cauteries in that they perform their effects slower, and with less force and pain : they are used to eat off proud fungous flesh ; they also penetrate within hard callous bodies, and liquify the humours ; and are particularly applied in abscesses and imposthumations, to

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eat through to the suppurated matter, and give it vent ; sometimes also to make issues, in parts where cutting is difficult, or inconvenient.

Cautistics are generally divided into four sorts, the common stronger caustic, the common milder caustic, the antimonial caustic, and the lunar caustic.

The stronger caustic is prepared by boiling to a fourth part, any quantity of the lees of almond-soap, adding lime, that has been kept in a vessel pretty close stoppt for several months; the lime is to be added till all the liquor is absorbed, and the whole reduced to a paste, which is to be kept in a vessel well stoppt.

The common milder caustic is prepared by taking equal parts of soft soap, and fresh quick-lime, and mixing them at the time of using.

The antimonial caustic is prepared thus ; take of antimony one-pound, of corrosive sublimate, two pounds ; and being reduced separately into powder, mix them well, and distil them in a retort with a wide neck, in a gentle heat of sand ; let what ascends into the neck of the retort be exposed to the air, that it may run into a liquor.

The method of preparing the lunar caustic is as follows : dissolve pure silver by a sand-heat, in about twice its weight of aqua fortis ; then dry away the humidity with a gentle fire, afterwards melt it in a crucible, that it may be poured into proper moulds, carefully avoiding overmuch heat, lest the matter should grow too thick.

CAUSTIC CURVE, in the higher geometry, a curve formed by the concurrence or coincidence of the rays of light, reflected, or refracted, from some other curve.

Every curve has its twofold caustic ; accordingly, caustics are divided into cata-caustics, and diacaustics ; the one formed by reflection, the other by refraction. See the articles **CATACAUSTIC** and **DIACAUSTIC**.

CAUSTIC GLASSES, the same with burning-glasses. See **BURNING-GLASS**.

CAUSUS, or **BURNING-FEVER**, a species of continual fever, accompanied with a remarkable inflammation of the blood. The principal symptoms are a heat almost burning to the touch, the breath extremely hot, a dryness of the whole skin, the tongue parched and rough, and an unquenchable thirst. See the article **FEVER**.

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CAUTERIZATION, the application of cauteries to any part of the body. See the next article.

Cauterization with moxa is wonderfully extolled by some as the most effectual means to extirpate the gout ; but it is at present in disuse, and not without reason, for besides the acute pain which it creates, it is frequently found to have little or no effect. This cauterization, however, is said to be at present in use among the Arabians ; and the Japonese and Chinese have it in so great esteem, that it makes one of their chief remedies.

CAUTERY, in surgery, a medicine for burning, eating, or corroding any solid part of the body.

Cauteries are distinguished into two classes, actual and potential : by actual cauteries are meant red hot instruments, usually of iron, which are applied to many parts and disorders ; and by potential cauteries are understood certain kinds of corroding medicines. See the article **CAUSTICS**. Cauteries have manifold uses, for they not only destroy the dead parts of carious bones, remove cancers, schirri, excrescencies, carbuncles, and mortified parts, but they are also used to make issues and setons, to stop hæmorrhages in wounds and amputations, and lastly to remove an amaurosis, epilepsy, sciatica, with pains in the teeth and other parts.

For the right application of cauteries, various observations are necessary : 1. The size and figure of the cautery should correspond to that of the disordered part. 2. It is necessary to secure the sound parts from the cautery, to prevent giving more than necessary pain. 3. When the instrument is sufficiently hot, it is to be applied, and strongly impressed upon the disordered part, till the bottom of it appears sound. To effect this more speedily, it will be necessary to have several cauteries in readiness, a caution more especially to be observed in carious bones and large hæmorrhages.

Several physicians have observed, that cauteries succeeded in apoplexies when all other remedies have failed. But for the part to which the cautery is to be applied there are various opinions ; some prefer the occiput ; some the nape of the neck, between the first and second vertebræ ; some the meeting of the coronal and sagittal sutures, and others pitch upon other parts. Mistichellius, an Italian writer, asserts, that no part can be so proper for cauteri-

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cauterizations in apoplexies, as the soles of the feet.

CAUTION, *cautio*, in the civil and scotch law, denotes much the same with what, in the law of England, is called bail. See the article **BAIL**.

CAUTIONE ADMITTENDA, in law, a writ which lies against a bishop that holds an excommunicated person in prison for contempt, after he has offered sufficient caution or security to obey the orders of the church. On receipt of this writ, the sheriff warns the bishop to take caution.

CAXA, a little coin made of lead, mixed with some scoria of copper, struck in China, but current chiefly at Bantam in the island of Java, and some of the neighbouring islands.

The caxas are of two kinds, great and small. Of the small 300,000 are equal to fifty-six livres five sols french money; and of the great, 6000 are equal to four shillings and six-pence sterling.

CAXAMALCA, the name of a town and distinct of Peru, in South America, where there was a most sumptuous palace belonging to the Yncas, and a magnificent temple dedicated to the sun.

It was at Caxamalca that Pizarro put to death Athualpha, their last king.

CAZEMATE, or **CASEMATE**, in fortification, a certain retired platform in the flank of a bastion, for the defence of the moat and face of the opposite bastion. Sometimes there are three such platforms one behind another, the uppermost of which is on the terre plein of the bastion, which makes the other two be called *places basses*, or low places. They are covered from the enemies batteries by a work of earth added to the angle of the shoulder, of a circular and sometimes of a square form, called shoulder, orillon, or epaulement. See the articles **ORILLON**, &c. It is very seldom that cazemates are used now a-days, because the enemies batteries are apt to bury the cannon they contain under the ruins of their vaults; besides, that the smoke with which they are continually filled, renders them unsupportable to the engineers. It is for this reason the later engineers make them open at top, contenting themselves with fortifying them with a parapet.

CASEMATE is also used for a well with several subterraneous branches dug in the passage of the bastion, till the miner is heard at work, and air given to the mine.

CAZERN. See the article **CASERN**.

CEANOTHUS, in botany, a genus of the pentandria-monogynia class of plants, the calyx of which is a turbinated single-leaved perianthium, permanent, and cut at the brim into five acute segments; the corolla consists of five equal, roundish, compressed, obtuse, patent petals, less than the cup; the fruit is a dry berry, containing three cells, in each of which is lodged an oval single seed.

CEDAR, *cedrus*, according to Tournefort, makes a distinct genus of plants, but is comprehended by Linnæus among the junipers. See the article **JUNIPER**.

Cedar-wood, which is of a fragrant smell and fine grain, is almost incorruptible by reason of its bitterness, which renders it distasteful to worms. Historians tell us, that some of this timber was found in the temple of Apollo at Utica, two thousand years old. The cedars of Lebanon are famous, as having been used by Solomon in building the temple of Jerusalem.

CEDRIA, *κεδρία*, a resinous liquor, issuing from the great cedar tree, or cedar of Lebanon. The word is also written cedrium, *κεδριον*, and cedrinum, *κεδρινον*.

Cedria, when good, yields a strong smell, is transparent, of a thick fatty consistence, so that in pouring it out, it does not fall too fast or freely, but equally drop by drop. It is possessed of two opposite qualities, *viz.* to preserve dead bodies, by its drying and consuming superfluous moisture, without damaging the solid parts; and to putrify the soft and tender parts of living bodies, without exciting any pain.

The cedria is properly the tear of the cedar. Some call it the gum, others the pitch of the cedar. The same denomination is also given to the cedrelæon, or oil of the cedars, which differs little from the resin, except that it is of a thinner consistence.

CEDRUS, the **CEDAR**, in botany. See the article **CEDAR**.

CEGINUS, in astronomy, a fixed star of the third magnitude, in the left shoulder of Bootes. See the article **BOOTES**.

Its longitude, according to Hevelius, for the year 1700, was $13^{\circ} 26' 4''$, and its latitude northern $49^{\circ} 35' 47''$.

CEILING, in architecture, the upper part or roof of a room, being a lay or covering of plaster over laths, nailed on the bottom of the joists which bear the floor of the upper room, or on joists put up for that purpose where there is no upper room, hence called ceiling joists.

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These plaistered ceilings are much used in England, more than in any other country: nor are they without their advantages, as they make the room lightsome, are good in case of fire, &c.

CELANDINE, *chelidonium*, in botany. See the article **CHELIDONIUM**.

CELARENT, in logic, a mode of syllogism, wherein the major and conclusion are universal negative propositions, and the minor an universal affirmative. As

CE No man that is a hypocrite can be saved:

LA Every man who with his lips only cries Lord, Lord, is a hypocrite:

RENT Therefore, no man, who with his lips only cries Lord, Lord, can be saved.

CELASTRUS, in botany, a genus of the pentandria-monogynia class of plants, whose corolla consists of five equal, oval, patent, sessile petals, with their ends turned back: the fruit is a coloured, oval capsule, obtusely trigonal, gibbous, formed of three valves, and containing three cells, in each of which are small, oval, coloured seeds, smooth, and half covered by a calyptra, which is also coloured, and has an unequal rim, divided into four segments.

CELEBES, or **MACASSER**, an island of the indian ocean, situated between 116° and 124° east longitude, and between 2° north and 6° south latitude.

CELERES, in roman antiquity, a regiment of body guards belonging to the roman kings, established by Romulus, and composed of 300 young men chosen out of the most illustrious roman families, and approved by the suffrages of the curiæ of the people, each of which furnished ten.

CELERI, in botany, the english name for several species of apium. See **APIUM**.

CELERITY, in mechanics, the swiftness of any body in motion.

It is also defined to be an affection of motion, by which any moveable body runs through a given space in a given time. See **VELOCITY** and **MOTION**.

CELESTIAL, or **COELESTIAL**. See the article **COELESTIAL**.

CELESTINS, in church-history, a religious order of christians, reformed from the bernardins by pope Celestin V. Their rules are divided into three parts; the first, of the provincial chapters, and the elections of superiors; the second contains the regular observances; and the third, the visitation and correction of the monks.

The celestins rise two hours after midnight to say matins: they eat no flesh at any time, except when they are sick: they fast every Wednesday and Friday to the feast of the exaltation of the holy cross; and from that feast to Easter, every day.

CELEUSMA, *κίλευσμα*, in antiquity, a naval shout serving as a signal for the mariners, or rowers in ships, to ply their oars, to row brisker, or to cease from rowing: it is also made use of to signify the joyful acclamation of vintagers, and the shouts of the conquerors, insulting over the vanquished.

CELIAC, or **COELIAC PASSION**, a sort of diarrhoea, or flux of the belly, wherein the aliment comes away either crude or chylified instead of excrements. See the article **COELIAC PASSION**.

CELIBACY, the state of unmarried persons, to which, according to the doctrine, or at least the discipline, of the church of Rome, the clergy are obliged.

Dr. Bingham observes, that the prohibiting marriage after ordination, was an incroachment upon the primitive rule, and never received in the greek church; so that it is not to be reckoned among the standing rules of discipline, which concerned the whole church. In the churches of France and Germany, celibacy was not universally practised by the clergy in the eighth century, as appears by the sixth canon of pope Adrian's collection. As to the settling celibacy in the western church, it was brought about with extreme difficulty, a great many provincial councils were convened in Germany and elsewhere. In the church of England, the marriage of the clergy was generally practised to the end of the tenth century, and in a great measure to the beginning of the twelfth.

That celibacy has no pretence of divine or apostolical institution, seems no difficult point to prove: whence it is, at first, hard to conceive from what motive the court of Rome persisted so very obstinately to impose this institution on the clergy. But we are to observe, that this was a leading step to the execution of the project formed of making the clergy independent of princes, and rendering them a separate body, to be governed by their own laws. In effect, while priests had children, it was very difficult to prevent their dependance upon princes, whose favours have such an influence on private men: but having no family, they were more at liberty to adhere to the pope.

CELL, *cella*, a little apartment or chamber, such as those wherein the antient monks, solitaries, and hermits, lived in retirement.

Cells are still retained in divers monasteries. Thus the dormitory is frequently divided into so many cells. The carthusians have each a separate house, which serve them as a cell.

The hall wherein the roman conclave is held, is divided by partitions into divers cells, for the several cardinals to lodge in.

CELLS are also the little divisions in honeycombs, which are always regular hexagons.

CELLS, in botany, the hollow places between the partitions in the pods, husks, and other seed-vessels of plants: according as there is one, two, three, &c. of these cells, the vessel is said to be unilocular, bilocular, trilocular, &c.

CELLS, in anatomy, little bags or bladders where fluids or other matters are lodged, called *loculi*, *cellulæ*, &c.

Adipose CELLS. See the article **ADIPOSE**.

CELL, in geography, a town of Triers, in the circle of the lower Rhine, in Germany, situated on the eastern shore of the Moselle, twenty-six miles north-east of Triers; east long. $6^{\circ} 45'$, and north lat. $50^{\circ} 10'$.

CELLAR, the lowest room in a house, the ceiling of which is level with the surface of the ground on which the house stands, or at most but very little higher.

As to the situation of cellars, Sir Henry Wotton says, they ought, unless the whole house be cellared, to be situated on the north side of the house, as standing in need of a cool and fresh air.

CELLARER, an officer in a monastery, who takes care of the temporalities, and furnishes the convent with provision.

The word is borrowed from the roman law, for *cellarius*, in the digests, signifies a comptroller of the accounts.

CELOSIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of five lanceolated, acuminate, erect, rigid, and permanent petals; the fruit is a globose capsule, surrounded with a corolla, with one cell opening horizontally, and containing several roundish emarginated seeds.

CELSIA, in botany, a genus of the didynamia-angiospermia class of plants, the flower of which is monopetalous, with a plain limb and roundish segments: the fruit is a roundish capsule, compressed at

the top, acuminate, adhering to the cup, with two cells, containing several small angulated seeds.

CELTIS, the **NETTLE-TREE**, in botany, a genus of plants belonging to the polygamia-monoecia class of plants. In the hermaphrodite flower there is no corolla: the fruit is a globose drupe with one cell, containing a roundish nut. In the male flower there is no corolla.

The fruit of this plant, when not too ripe, is astringent, and binds the belly; and the decoction of it is good for a dysentery, and for women labouring under an immoderate flux of the menses.

CEMENT, or **CÆMENT**. See the article **CÆMENT**.

CEMENTATION, or **CÆMENTATION**. See the article **CÆMENTATION**.

CEMETERY, or **COEMETERY**. See the article **COEMETERY**.

CENCHRIS, in zoology, a genus of serpents, the abdomen of which is covered with 240 scuta, and the tail with 64: add to this, that its head is covered with small scales, and the tail has no appendix. It is otherwise called *boiguacu*. See the article **BOIGUACU**.

CENCHRUS, in botany, a genus of the polygamia-monoecia class of plants. There are two flowers, the one male, the other hermaphrodite; the proper flower is single, with two lanceolated, acuminate, concave valves: there is no pericarpium, and but one roundish seed.

CENOBITE, or **COENOBITE**. See the article **COENOBITE**.

CENOTAPH, *κενταφίον*, in antiquity, a monument erected in honour of the dead, but not containing any of their remains. Of these there were two sorts. One erected for such persons as had been honoured with funeral rites in another place; and the second sort, for those that had never obtained a just funeral.

The sign whereby honorary sepulchres were distinguished from others, was commonly the wreck of a ship, to denote the decease of the person in some foreign country.

CENSAL, in commerce, a word used on the coast of Provence; and in the ports of the Levant; to denote a broker. See the article **BROKER**.

Most of the censals of the Levant, and particularly those at Grand Cairo, are Arabs by nation. They commonly receive one half *per cent.* for their trouble.

CENSER, a sacred instrument made use of in the religious rites of the antients.

It was a vase, containing incense to be used in sacrificing to the gods. There is the representation of one in Montfaucon's antiquities, under the figure of a shallow cup with a lid to it, and chains running through small handles. Censers were likewise in use among the Jews, as we find in the 1 Kings vii. 50. "Solomon, when he prepared furniture for the temple of the Lord, among other things made censers of pure gold." The censer is also used in romish churches.

CENSOR, in roman antiquity, a magistrate, whose business it was to reform the manners and to value the estates of the people.

There were two censurs first created in the 311th year of Rome, upon the senate's observing that the consuls were generally so much taken up in military actions, as to have no leisure to attend to private affairs. At first they were chosen out of the senate, but after the plebeians had got the consulate open to them, they soon arrived at the censorship. The censurs degraded senators upon occasion, made the *princeps senatus*, inspected the management of private families relating to education and expence, and, in short, had authority to reprimand and correct any irregularity, and to take care that persons both in public and private capacity, behaved themselves in a becoming manner. Cicero reduces their functions to the numbering of the people, the correction and reformation of manners, the estimating the effects of each citizen, the proportioning of taxes, the superintendence of tribute, the exclusion from the temples, and the care of the public places. The office was so considerable, that none aspired to it till they had passed all the rest; so that it was looked on as surprising, that Crassus should be admitted censor, without having been either consul or prætor. It was held at first for five years, but Mamercus Æmilius shortened the term to eighteen months.

After the censurs were elected in the comitia centuriata, they proceeded to the capitol, where they took an oath not to manage either by favour or disaffection, but to act equitably and impartially thro' the whole course of their administration: and notwithstanding their great authority, they were obliged to give an account of their management to the tribunes and *ediles curules*. In process of time, the dignity of this office dwindled very much; under the emperors it sunk to nothing, as

their majesties engrossed all the branches of that jurisdiction. The republic of Venice has at this day a censor of manners of their people, whose office lasts six months.

CENSOR of books, are a body of doctors or others established in divers countries to examine all books before they go to the press, and to see they contain nothing contrary to faith and good manners.

At Paris, the faculty of theology claim this privilege, as granted to them by the pope; but in 1624 new commissions of four doctors were created by letters patent the sole censurs of all books, and answerable for every thing contained therein.

In England, we had formerly an officer of this kind, under the title of licenser of the press; but since the revolution, our press has been laid under no such restraint.

CENSURE, a judgment which condemns some book, person or action, or more particularly a reprimand from a superior. Ecclesiastical censures, are penalties by which, for some remarkable misbehaviour, christians are deprived of the communion of the church, or prohibited to execute the sacerdotal office.

There are different kinds of censures distinguished by canonists, 1. Into those called *de jure*, that is, such as are appointed by law, and into those *ab homine*, which are pronounced by a superior for some particular fact. 2. Into censures *latæ sententiæ*, which are incurred by committing the prohibited actions without any need of judgment pronounced; and censures *sententiæ ferendæ*, which, though deserved by committing the fault against which the penalty is levelled, yet the censure is not incurred till sentence is pronounced by an officer commissioned for that purpose. 3. Into just and unjust censures. 4. Into valid and invalid. And, 5. Into those reserved for a superior judge, and those not reserved.

The pains and penalties attending censures, are excommunication, suspension, interdict, irregularity, deposition, &c. See each of these under its proper head.

CENSURE in several manors of Cornwall and Devon, a custom by which all residents above the age of sixteen, are cited to swear fealty to the lord, and to pay 11 d. *per poll*, and 1 d. yearly after for ever. The persons thus sworn are called censurs.

CENSUS, in roman antiquity, an authentic

tic declaration made before the censors, by the several subjects of the empire, of their respective names and places of abode. This declaration was registered by the censors, and contained an enumeration, in writing, of all the estates, lands, and inheritances they possessed; their quantity, quality, place, wives, children, domestics, tenants, slaves.

The census was instituted by Servius Tullius, and was held every five years. It was of great service to the republic, because, by means of it, they discovered the number of citizens capable of bearing arms, and the money they could afford for the expence of a war. It went thro' all ranks of people, tho' under different names: that of the common people was called *census*; that of the knights, *census, recensio, recognitio*; that of the senators, *lectio, relectio*.

The census which intitled one to the dignity of a knight, was 400,000 sesterces: that of a senator, was double that sum. In the voconian law, census is used for a man, whose estate in the censor's books is valued at 100,000 sesterces.

CENT, in commerce, an abridgment of centum, is used to express the profit or loss arising from the sale of any commodity. Thus we say, there is 10 *per cent.* profit, or 10 *per cent.* loss; which is $\frac{1}{10}$ profit, or $\frac{1}{10}$ loss, upon the sale of the whole. In the trade of money, it signifies the benefit or interest of any sum of money. Thus money is worth 4. or 5 *per cent.* upon exchange. But in brokerage, it must be observed, that cent is applied in a different manner. For example, if a broker or exchange agent takes $\frac{1}{2}$ *per cent.* for the contracts made by his interposition, it is to be understood that there is paid to him $\frac{1}{2}$ of a pound, viz, 2 s. 6 d. for every 100 l. he negotiated.

When an agent or factor sets down at the bottom of an invoice, which he sends to his principal, 2 *per cent.* commission, it signifies that he takes to many times 2 l. as there are 100 l. in the sum total of the invoice. And it must be observed, that this commission is taken both on the principal price of the commodities bought, and on the charges and expences incurred, as duties paid, portorage, package, postage of letters, &c.

CENTAUR, or **HIPPOCENTAUR**, in ancient poetry, denotes a fabulous kind of animal, half man, half horse.

The Thessalians, who first taught the art of breaking horses, appearing on horse-back to make only one body with the animal on which they rode, gave rise to the fiction of the hippocentaur.

CENTAUR, *centaurus*, in astronomy, a constellation of the southern hemisphere commonly joined with the wolf, and called *centaurus cum lupo*. In Ptolemy's catalogue it consists of 19 stars; in Tycho's of 4; and of 13 in the britannic catalogue.

CENTAUREA, **CENTAURY**, in botany, a genus of the syngenesia-polygamia-frustranea class of plants: the compound flower of which is tubulated and difform: the proper one, of the hermaphrodite, is monopetalous, with a ventricose, oblong, erect limb, terminating in five linear erect segments: the female flower is monopetalous, with an oblong, oblique, unequally divided limb. There is no pericarpium except the calyx, which is changed into one, and connivent, containing solitary seeds in the hermaphrodite: the females prove abortive. See plate XXXVIII. fig. 8.

The root of this plant is esteemed in fluxes, dysenteries, spitting of blood, and by some is much commended in all diseases arising from the obstructions of the meseriatic veins.

This genus comprehends the centaureum majus et minus of Tournefort, the root and leaves of which are esteemed vulgarly, stomachic, and astringent.

CENTAURY. See **CENTAUREA**.

CENTER, or **CENTRE**, *centrum*, in geometry, a point equally distant from the extremities of a line, figure or body.

CENTER of a bastion, a point in the middle of the gorge of a bastion, whence the capital line commences, and is generally at the angle of the inner polygon. See the article **BASTION**.

CENTER of a battalion, the middle of a battalion, where there is generally left a square space for holding the cloaths and baggage.

CENTER of a circle, a point in the middle of a circle, or circular figure, from which all lines drawn to the circumference are equal.

CENTER of a conic section, a point wherein the diameters intersect each other. In the ellipsis, this point is within the figure, and in the hyperbola, without.

CENTER of a curve of the higher kind, the point where two diameters concur. When all



all the diameters concur in the same point, Sir Isaac Newton calls it the general center.

CENTER of the equant, in the old astronomy, a point in the line of the aphelion, being so far distant from the center of the eccentric towards the aphelion, as the sun is from the center of the eccentric towards the perihelion.

CENTER of a dial, that point where the axis of the world intersects the plane of the dial; and therefore in dials that have centers, it is that point wherein all the hour-lines meet. All dials have centers, except such as have their planes parallel to the axis of the world.

CENTER of an ellipsis, the point where the transverse and conjugate diameters intersect each other.

CENTER of gravitation and attraction, in physics, that point to which the revolving planet or comet is impelled or attracted by the impetus of gravity.

CENTER of gravity, in mechanics, that point about which all the parts of a body do, in any situation, exactly balance each other. Hence, 1. If a body be suspended by this point as the center of motion, it will remain at rest in any position indifferently. 2. If a body be suspended in any other point, it can rest only in two positions, viz. when the said center of gravity is exactly above or below the point of suspension. 3. When the center of gravity is supported, the whole body is kept from falling. 4. Because this point has a constant endeavour to descend to the center of the earth, therefore, 5. When the point is at liberty to descend, the whole body must also descend, either by sliding, rolling, or tumbling down. 6. The center of gravity in regular uniform and homogeneous bodies, as squares, circles, &c. is the middle point in a line connecting any two opposite points or angles. Wherefore, if such a line be bisected, the point of section will be the center of gravity.

To find the center of gravity of a triangle. Let BG (plate XXXIX. fig. 1. N° 1.) bisect the base AC of the triangle ABC, it will also bisect every other line DE drawn parallel to the base, consequently the center of gravity of the triangle will be found somewhere in the line BG. The area of the triangle may be considered as consisting of an infinite number of indefinitely small parallelograms, DE ba, each of which is to be considered as a weight, and also as the fluxion of the

area of the triangle, and so may be expressed by zyx , (putting $BF = x$, and $FE = y$) if this fluxionary weight be multiplied by its velocity x , we shall have $zyxx$ for its momentum. Now put $BG = a$ and $AC = b$, then $BG(a) :$

$$AC(b) :: BF(x) : DE = \frac{bx}{a} = zy, \text{ there-}$$

fore the fluxion of the weights $zyx = \frac{bx}{a}$; and the fluxion of the momenta

$$zyxx = \frac{bx^2}{a}, \text{ whence the fluent of}$$

the latter, viz. $\frac{bx^3}{3a}$ divided by the flu-

ent of the former, viz. $\frac{bx^2}{2a}$ will give $\frac{2}{3}x$

for the distance of the point from B in the line BF, which has a velocity equal to the mean velocity of all the particles in the triangle DBE, and is therefore its center of gravity. Consequently the center of gravity of any triangle ABC, is distant from the vertex B $\frac{2}{3}$ BG a right line drawn from the angle B bisecting the base AC. And since the section of a superficial or hollow cone is a triangle, and circles have the same ratio as their diameters, it follows that the circle whose plane passes through the center of gravity of the cone, is $\frac{2}{3}$ of the length of the side distant from the vertex of the said cone.

To find the center of gravity of a solid cone. As the cone consists of an infinite number of circular areas, which may be considered as so many weights, the center of gravity may be found as before, by putting $BE = x$ (ibid. N° 2.) $BG = a$, the circular area $DFE = y$, and $AGC = b$; and from the nature of the cone, $a^2 :$

$$x^2 :: b : y = \frac{bx^2}{a^2} : \text{but } xy = \frac{bx^2x}{a^2} = \text{flux-}$$

ion of the weights; and $yx = \frac{bx^3}{a^2} =$

fluxion of the momenta, whence the fluent of the latter, viz. $\frac{bx^4}{4a^2}$ divided by

the fluent of the former $\frac{bx^3}{3a^2}$ will give

$\frac{3}{4}x$ for the center of gravity of the part DBEF, consequently the center of gravity of the cone ABCG is distant from the vertex B $\frac{3}{4}$ of the side BG, in a circle parallel to the base.

To find the center of gravity in a parallelogram and parallelopiped, draw the diagonal

diagonal AD and EG, (*ibid.* N° 3.) likewise CB and HF; since each diagonal AD and CB divides the parallelogram ACDB into two equal parts, each passes through the center of gravity, consequently the point of intersection I must be the center of gravity of the parallelogram. In like manner, since both the plane CBFH and ADGE divide the parallelopiped into two equal parts, each passes through its center of gravity, so that the common intersection IK is the diameter of gravity, the middle whereof is the center. After the same manner may the center of gravity be found in prisms and cylinders, it being the middle point of the right line that joins the center of gravity of their opposite bases.

The center of gravity of a parabola, is found as in the triangle and cone. Thus, let BF in the parabola ABC (*ibid.* N° 4.) be equal to x , DE = y , then will $y\dot{x}$ be the fluxionary weight, and yxx the fluxion of the momenta; but from the nature of the curve, we have

$$y = x^{\frac{1}{2}}; \text{ whence } y\dot{x} = x^{\frac{1}{2}}\dot{x}, \text{ and } yxx = x^{\frac{1}{2}}\dot{x}x, \text{ whose fluent } \frac{2}{5}x^{\frac{5}{2}} \text{ divided by}$$

$$\frac{2}{3}x^{\frac{3}{2}} \text{ the fluent of } x^{\frac{1}{2}}\dot{x} \text{ will give } \frac{3}{5}x = \frac{3}{5}BF \text{ for the distance of the center of}$$

gravity from the vertex B in the part DBE; and so $\frac{2}{5}$ of BG is that center in the axis of the whole parabola ABC from the vertex B.

The center of gravity in the human body, is situated in that part which is called the pelvis, or in the middle between the hips. For the center of gravity of segments, parabolic, conoids, spheroids, &c. we refer to Wolfius.

Common CENTER of gravity of two or more bodies, a point so situated in a right line joining the centers of these bodies, that if this point be suspended, the bodies will equiponderate, and rest in any situation. In two equal bodies, it is at equal distances from both: when the bodies are unequal, it is nearer to the greater body, in proportion as it is greater than the other; or the distances from the centers are inversely as the bodies. Let A (*ibid.* N° 5.) be greater than B, join AB, upon which take the point C, so that CA : CB :: B : A, or that $A \times CA = B \times CB$, then is C the center of gravity of the bodies A and B. If the center of gravity of three bodies be required, first find C the

center of gravity of A and B; and supposing a body to be placed there equal to the sum of A and B, find G the center of gravity of it and D; then shall G be the center of gravity of the three bodies A, B and D. In like manner the center of gravity of any number of bodies is determined.

The sum of the products that arise by multiplying the bodies by their respective distances, from a right line or plane given in position, is equal to the product of the sum of the bodies multiplied by the distance of the center of gravity from the same right line or plane, when all the bodies are on the same side of it: but when some of them are on the opposite side, their products, when multiplied by their respective distances from it, are to be considered as negative, or to be subtracted. Let IL (*ibid.* N° 7.) be the right line given in position, C the center of gravity of the bodies A and B; A a , B b , C c , perpendiculars to IL in the points a , b , and c ; then if the bodies A and B be on the same side of IL, we shall find $A \times Aa + B \times Bb = A + B \times Cc$. For drawing thro' C, the right line MN parallel to IL meeting A a in M, and B b in N, we have A : B :: BC : AC by the property of the center of gravity, and consequently A : B :: BN : AM, or $A \times AM = B \times BN$; but $A \times Aa + B \times Bb = A \times Cc + A \times AM + B \times Cc - B \times BN = A \times Cc + B \times Cc = A + B \times Cc$. When B is on the other side of the right line IL (*ib.* N° 6.) and C on the same side with A, then $A \times Aa - B \times Bb = A \times Cc + A \times AM - B \times BN + B \times Cc = A + B \times Cc$: and when the sum of the products of the bodies on one side of IL multiplied by their distances from it, is equal to the sum of the products of the bodies multiplied by their distances on the other side of IL, then C vanishes, or the common center of gravity of all the bodies falls on the right line IL. Hence it is demonstrable, that when any number of bodies move in right lines with uniform motions, their common center of gravity moves likewise in a right line with an uniform motion; and that the sum of their motions estimated in any given direction, is precisely the same as if all the bodies in one mass were carried on with the direction and motion of their common center of gravity.

CENTER of an hyperbola, a point in the middle of the transverse axis.

CENTER of magnitude, of any homogeneous body, the same with the center of gravity. See the article **CENTER of gravity**.

CENTER of motion, that point which remains at rest, while all the other parts of a body move about it. And this is the same in uniform bodies of the same matter throughout, as the center of gravity.

CENTER of oscillation, that point in a pendulum in which, if the weight of the several parts thereof were collected, each vibration would be performed in the same time as when those weights are separate. This is the point from whence the length of a pendulum is measured, which in our latitude, in a pendulum that swings seconds, is 39 inches and $\frac{2}{10}$.

The center of suspension is the point on which the pendulum hangs.

A general rule for finding the CENTER of oscillation. If several bodies be fixed to an inflexible rod suspended upon a point, and each body be multiplied by the square of its distance from the point of suspension, and then each body be multiplied by its distance from the same point; and all the former products when added together, be divided by all the latter products added together, the quotient which shall arise from thence, will be the distance of the center of oscillation of these bodies from the said point.

Thus, if *CF* (*ibid.* N° 8.) be a rod on which are fixed the bodies *A, B, D, &c.* at the several points *A, B, D, &c.* and if the body *A* be multiplied by the square of the distance *CA*, and *B* be multiplied by the square of the distance *CB*, and so on for the rest: and then if the body *A* be multiplied by the distance *CA*, and *B* be multiplied by the distance *CB*, and so on for the rest; and if the sum of the products arising in the former case be divided by the sum of those which arise in the latter, the quotient will give *CQ*, the distance of the center of oscillation of the bodies *A, B, D, &c.* from the point *C*. For the demonstration of this rule, consult the appendix to part I. of Mr. Rowning's system of natural philosophy. To determine the center of oscillation of the rectangle *RIHS* (*ibid.* N° 9.) suspended in the middle point *A* of the side *RI*, and oscillating about its axis *RI*. Let *RI* = *SH* = *a*, *AP* = *x*, then will *Pp*, = *dx* and the element or the area, consequently one weight = *a dx* and its momentum *a x dx*. Wherefore $\int a x^2 dx : \int a x dx :: \frac{1}{3} a x^3 : \frac{1}{2} a x^2 = \frac{2}{3} x$, indefinitely expresses the distance of the

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center of oscillation from the axis of oscillation in the segment *RCDI*. If then for *x* be substituted the altitude of the whole rectangle *RS* = *b*, the distance of the center of oscillation from the axis will be found = $\frac{2}{3} b$.

The center of oscillation in an equicrural triangle *SAH* (*ibid.*) oscillating about its axis *RI*, parallel to the base *SH*, is found at a distance from the vertex *A* equal to $\frac{3}{4} AE$ the altitude of the triangle.

The center of oscillation in an equicrural triangle *SAH* (*ibid.*) oscillating about its base *SH*, is found at a distance from the vertex *A* = $\frac{1}{2} AE$.

For the centers of oscillation of parabolas and curves of the like kind oscillating about their axis parallel to their bases, they are found as follows. In the apollonian parabola, the distance of the center of oscillation from the axis = $\frac{5}{7} AE$. (*ibid.*)

In the cubical paraboloid, the distance of the center from the axis = $\frac{7}{10} AE$.

In a biquadratic paraboloid, the distance of the center from the axis = $\frac{9}{13} AE$.

See more concerning the centers of oscillation of triangles, cylinders, cones, &c. suspended in different manners, and agitated laterally, in Wolfius's *elementa mechanica*, cap. x. sect. 449, &c.

CENTER of percussion, in a moving body, that point wherein the percutient force is greatest, or that point with which if the body strikes against any obstacle, no shock shall be felt at the point of suspension. See the article **PERCUSSION**.

The center of percussion, when the percutient body revolves round a fixed point, is the same with the center of oscillation, and consequently may be determined by the same rule. See the article **CENTER of oscillation**.

Hence a stick of a cylindrical figure, supposing the center of motion at the hand, will strike the greatest blow at a distance about two thirds of its length from the hand.

The center of percussion is the same with the center of gravity, if all the parts of the percutient body be carried with a parallel motion, or with the same celerity. For the momenta are the facts of the weights into the celerities; wherefore to multiply equiponderating bodies by the same velocity, is the same thing as to take equimultiples of them; but the equimultiples of equiponderating bodies, themselves equiponderate. Therefore e-

X x x

equivalent

quivalent momenta are disposed about the center of gravity, and consequently, the center of gravity in this case, will coincide with the center of percussion; and what is spewn of the one, will hold of the other.

CENTER of conversion, in mechanics, a term first used by Mr. Parent. It may be explained thus. If a stick be laid on stagnant water, and drawn by a thread fastened to it, so that the thread always makes the same angle with the stick, viz. a right angle, the stick will be found to turn on one of its points, which will be unmovable, and this point is called the point of conversion.

This effect arises from the resistance of the fluid; but the great question consists in knowing in what point the center of conversion is found. This Mr. Parent has calculated with a great deal of exactness, and finds if the stick drawn by one extremity be a straight line divided into twenty parts, the center of conversion will be nearly on the thirteenth, reckoning from the thread. If it be not a line, but a surface or solid, there will be some change in the situation of the center of conversion, according to the nature of the surface or the solid.

CENTER of a parallelogram, or *polygon*, the point in which its diagonals intersect.

CENTER of a sphere, a point in the middle, from which all lines drawn to the surface are equal.

Hermes Trismegistus defines God an intellectual sphere, whose center is every where, and circumference no where.

CENTERING of an optic glass, the grinding it so as that the thickest part is exactly in the middle.

One of the greatest difficulties in grinding large optic glasses is, that in figures so little convex, the least difference will put the center two or three inches out of the middle. Dr. Hook notes, that tho' it were better the thickest part of a long object glass were exactly in the middle, yet it may be a very good one when it is an inch or two out of it.

Mr. Cassini the younger has a discourse express on the necessity of *well centering the object glass* of a large telescope, that is, of grinding them so, that the center may fall exactly in the axis of the telescope.

CENTESIMATION, a milder kind of military punishment, in cases of desertion, mutiny, and the like, when only every hundredth man is executed.

CENTIPES, in zoology, the name of two

species of scolopendra, one called the white centipes, or the whitish scolopendra with a depressed back; the other, the brown centipes, or the brown thin scolopendra. See the article SCOLOPENDRA.

CENTNER, among metallurgists and assayers, denotes a weight divisible first into an hundred, and afterwards into other lesser parts. However, it is to be observed that the center of metallurgists, is the same with the common hundred weight; whereas that of assayers is no more than one dram, to which the other parts are proportional, and nevertheless pass by the names 100 lb. 64 lb. 32 lb. &c.

CENTO, in poetry, a work wholly composed of verses or passages, promiscuously taken from other authors, only disposed in a new form and order.

Proba Falconia has written his life of Jesus Christ in centos, taken from Virgil & Alexr. Ross has done the like in his christiados, and Stephen de Pleure the same.

Ausonius has laid down rules to be observed in composing centos; the piece, says he, may be taken from the same poet, or from several, and the verses may be either taken entire, or divided into two: one half to be connected with another half taken elsewhere; but two verses are never to be used running, nor much less than half a verse taken.

CENTONARII, in antiquity, certain officers of the roman army, who provided tents and other stuff, called centones, made use of to quench the fire which the enemy's engines threw into the camp.

These centonarii kept with the carpenters and other officers of the artillery.

CENTRAL, something relating to a center. See the article CENTER.

CENTRAL FORCES, the powers which cause a moving body to tend towards, or recede from, the center of motion.

If a body A (plate XXXIX. fig. 2. N° 1.) be suspended at the end of a string AC, moveable about a point C, as a center, and in that position it receives an impulse in an horizontal direction, it will be thereby compelled to describe a circle about the central point. While the circular motion continues, the body will certainly endeavour to recede from the center, which is called its centrifugal force, and arises from the horizontal impetus. With this force it acts upon the fixed center-pin, and that, by its immobility, re-acts with an equal force on the body, by means of the string, and

and solicits it towards the center of motion: whence it is called the centripetal force; and when we speak of either or both indefinitely, they are called the central forces of the revolving body.

The theory of this species of motion, is comprised in the following propositions.

1. When two or more bodies revolve at equal distances from the center of the circle they describe, but with unequal velocities, the central forces, necessary to retain them, will be to each other as the squares of their velocities. That is, if one revolves twice as fast as the other, it will require four times the retaining force the other does; if with three times the velocity, it will require nine times the force to retain it in its orb, &c.

2. When two or more bodies move with equal velocities, but at unequal distances from the center they revolve about, their central forces must be inversely as their distances. That is, by how many times greater the distance a body revolves at, is from the center, so many times less force will retain it.

3. When two or more bodies perform their revolutions in equal times, but at different distances from the center they revolve about, the forces requisite to retain them in their orbs, will be to each other as the distance they revolve at from the center: for instance, if one revolves at twice the distance the other does, it will require a double force to retain it, &c.

4. When two or more bodies revolving at different distances from the center, are retained by equal centripetal forces, their velocities will be such, that their periodical times will be to each other, as the square roots of their distances. That is, if one revolves at four times the distance another does, it will perform a revolution in twice the time that the other does; if at nine times the distance, it will revolve in thrice the time.

5. And, in general, whatever be the distances, the velocities, or the periodical times of the revolving bodies, the retaining forces will be to each other in a ratio compounded of their distances directly, and the squares of their periodical times inversely. Thus, for instance, if one revolves at twice the distance another does, and is three times as long in moving round, it will require two ninths, that is, two ninths of the retaining power the other does.

6. If several bodies revolve at different

distances from one common center; and the retaining power lodged in that center decrease as the squares of the distances increase, the squares of the periodical times of these bodies will be to each other as the cubes of their distances from the common center. That is, if there be two bodies whose distances, when cubed, are double or treble, &c. of each other, then the periodical times will be such, as that when squared only, they shall also be double or treble, &c.

7. If a body be turned out of its rectilinear course, by virtue of a central force, which decreases as you go from the seat thereof, as the squares of the distances increase; that is, which is inversely as the square of the distance, the figure that body shall describe, if not a circle, will be a parabola, an ellipsis, or an hyperbola; and one of the foci of the figure, will be at the seat of the retaining power. That is, if there be not that exact adjustment between the projectile force of the body and the central power necessary to cause it to describe a circle, it will then describe one of those other figures, one of whose foci will be where the seat of the retaining power is.

8. If the force of the central power decreases as the square of the distance increases, and several bodies revolving about the same describe orbits that are elliptical, the squares of the periodical times of these bodies will be to each other, as the cubes of their middle distances from the seat of that power.

9. If the retaining power decrease something faster as you go from the seat thereof, (or which is the same thing, increase something faster as you come towards it) than in the proportion mentioned in the last proposition, and the orbit the revolving body describes be not a circle, the axis of that figure will turn the same way the body revolves: but if the said power decrease (or increase) somewhat slower than in that proportion, the axis of the figure will turn the contrary way. Thus, if a revolving body, as D (plate XXXIX. fig. 2. N^o 2.) passing from A towards B describe the figure ADB, whose Axis AB, at first points as in the figure, and the power whereby it is retained decrease faster than the square of the distance increases, after a number of revolutions, the axis of the figure will point towards P, and after that towards R, &c. revolving round the same way with the body; and if the retaining power de-

crease slower than in that proportion, the axis will turn the other way.

Thus it is the heavenly bodies, *viz.* the planets, both primary and secondary, and also the comets, perform their respective revolutions. The figures in which the primary planets and the comets revolve, are ellipses, one of whose foci is at the sun: the areas they describe, by lines drawn to the center of the sun, are in each proportional to the times in which they are described. The squares of their periodical times, are as the cubes of their middle distances from the sun. The secondary planets describe also circles or ellipses, one of whose foci is in the center of their primary ones, &c.

CENTRAL RULE, a rule discovered by Mr. Thomas Baker, whereby to find the center of a circle designed to cut the parabola in as many points, as an equation to be constructed hath real roots. Its principal use is in the construction of equations, and he has applied it with good success as far as biquadratics.

The central rule is chiefly founded on this property of the parabola, that if a line be inscribed in that curve perpendicular to any diameter, a rectangle formed of the segments of the inscript, is equal to the rectangle of the intercepted diameter and parameter of the axis.

The central rule has the advantage over Cartes and De Latere's methods of constructing equations, in that both these are subject to the trouble of preparing the equation, by taking away the second term.

CENTRIFUGAL FORCE, that force by which all bodies that move round any other body in a curve, endeavour to fly off from the axis of their motion in a tangent to the periphery of the curve, and that in every point of it.

Mr. Huygens demonstrates, that this force is always proportional to the circumference of the curve in which the revolving body is carried round. The centrifugal force of any body is to the centripetal, as the square of the arch which a body describes in a given time, divided by the diameter, to the space thro' which a heavy body moves in falling from a place where it was at rest in the same time.

If any body swim in a medium heavier than itself, the centrifugal force is the difference between the specific weight of the medium, and the floating body.

All moving bodies endeavour after a rec-

tilinear motion, because it is the easiest, shortest, and most simple: whenever therefore they move in any curve, there must be something that draws them from their rectilinear motion, and detains them in their orbits; and were that force to cease, the moving body would go straight off in a tangent to the curve in that very point, and so would get still further and further from the focus, or center of its curvilinear motion.

It may be, that in a curve where the force of gravity in the describing body is continually variable, the centrifugal force may also continually vary in the same manner, and so that one may also supply the defect, or abate for the excess of the other, and consequently the effect be every where equal to the absolute gravity of the revolving body.

CENTRINA, or **CENTRINE**, in ichthyology, the name by which authors call a species of *squalus*, without any tail-fin, and its body of a trigonal shape.

CENTRIPETAL FORCE, that force by which a body is every where impelled, or any how tends towards some point as a center; such is gravity, or that force whereby bodies tend towards the center of the earth; magnetical attraction, whereby the load-stone draws iron; and that force, whatever it be, whereby the planets are continually drawn back from right lined motions, and made to move in curves.

The greater the quantity of matter in any body is, the greater will be its centripetal force, all things else alike. If a body laid upon a plane, revolve at the same time, and about the same center with that plane, and so describe a circle; and if the centripetal force, wherewith the body is drawn every moment towards the center, should cease to act, and the plane should continue to move with the same velocity, the body will begin to recede from the center about which the plane moved. See **CENTRAL FORCES**.

CENTRO-BARYC METHOD, in mechanics, the method of determining the content of a superficies, or solid, by means of the center of gravity.

CENTRONIA, in zoology, the name by which Dr. Hill calls the *echinus marinus*, or sea-hedge-hog, or sea-egg; which he defines to be an animal living under the defence of a shelly covering, formed of one piece, and furnished with a vast number of spines, moveable at the animal's pleasure.

These

These animals constitute a distinct genus by themselves, the species of which are very numerous, and some of them extremely elegant: 1. The centronia with variolated papillæ. 2. The common round centronia, with small papillæ. 3. The sea-apple. 4. The high-backed cordated centronia, called spatangus, or spatagoides, by authors. 5. The round flat centronia, called placenta: with a great many other species. See plate XXXIX. fig. 3. where n° 1. represents the variolated centronia, and n° 2, the common centronia.

CENTRUM, in geometry and mechanics, the same with center. See the article **CENTER**.

CENTRUM PHONICUM, in acoustics, the place where the speaker stands, in polysyllabic and articulate echoes.

CENTRUM PHONO-CAMPTICUM, the object or place that returns the voice in an echo. See the article **ECHO**.

Blancanus writes, that no syllable can be distinctly and clearly returned, under the distance of twenty-four geometrical paces.

CENTRUM TENDINOSUM, in anatomy, a point wherein the tendons of the muscles of the diaphragm meet.

This center is perforated towards the right side, for the vena cava; and the descending trunk of the great artery, the thoracic duct, and azygos vena pass between its two inferior processes.

CENTRY-BOX, the same with the gueritte, only the former is of wood, and the other of stone. It is a wooden cell, or lodge, to shelter the centinel, or centry, from the injuries of the weather.

In a fortification, they are usually placed on the flanked angles of the bastions, on those of the shoulder, and sometimes in the middle of the curtain.

CENTUMVIRI, in roman antiquity, judges appointed to decide common causes among the people; they were chosen three out of each tribe; and though five more than an hundred, were nevertheless called centumviri, from the round number centum, an hundred.

CENTUNCULUS, in botany, a genus of the tetrandria-monogynia class of plants; the flower of which is monopetalous, the tube is globose, and the limb divided into four oval segments: the fruit is an unilobular capsule, containing a great number of roundish seeds.

CENTURION, among the Romans, an officer in the infantry, who commanded a century, or an hundred men.

The centurions held the first rank in the first cohort of a legion, and two of them the place of the two first hastati, or pikemen: the first among the principes was also a centurion.

The centurion primipilus was the chief of the centurions: he was not under the command of any tribune, as all the rest were; he had four centuries under his direction, and guarded the standard and the eagle of the legion.

CENTURY, in a general sense, any thing divided into or consisting of an hundred parts.

The roman people, when they were assembled for the electing of magistrates, enacting of laws, or deliberating upon any public affair, were always divided into centuries; and voted by centuries, in order that their suffrages might be the more easily collected; whence these assemblies were called *comitia centuriata*. The roman cohorts were also divided into centuries. See the articles **CENTURION** and **COHORT**.

CENTURY, in chronology, the space of one hundred years.

This method of computing by centuries is generally observed in church-history, commencing from the time of our Saviour's incarnation; in which sense we say the first century, the second century, &c.

CENTURIES of Magdeburg, a famous ecclesiastical history, ranged into thirteen centuries, carried down to the year 1298, compiled by several hundred protestants of Magdeburg, the chief of whom was Matthias Flacius Illyricus.

CENTUSSIS, in roman antiquity, a coin containing an hundred asses.

CENU, a town of Terra Firma, in South America, about eighty miles south of Carthagena; west longitude 76°, and north latitude 9°.

CEPA, the **ONION**, in botany, a species of allium. See the article **ALLIUM**.

Onions are much eaten, and it would be well if they were more so: they attenuate tough and viscous humours, cleanse the stomach, and excite an appetite; they are a very powerful diuretic, but when eaten too largely, they have bad effects. A syrup of onions, made from a strong decoction of them, with honey, is an excellent medicine in asthma of the moist kind, in disorders of the breast, &c. A cataplasm of roasted onions and butter is an excellent external application for the piles, &c.

CEPHA-

CEPHALALGIA, a term used to denote the head-ach. See **HEAD-ACH**.

CEPHALANTHUS, in botany, a genus of the tetrandria-monogynia class of plants; the corolla consists of a single petal; the tube is slender; the limb is divided into four parts, acute, reflex, and of the length of the tube; the fruit is an oblong capsule, containing only one cell; several of these grow together, and form a roundish head; the seeds are numerous and oblong.

CEPHALIC, in a general meaning; signifies any thing belonging to the head, or its parts.

CEPHALIC MEDICINES are remedies for disorders of the head.

Under this denomination are comprehended all those medicines which have a particular relation to the brain; so that cephalic remedies, in general, are such as promote the secretion and distribution of the spirits, and are commonly of a volatile, spirituous, and aromatic nature.

CEPHALIC VEIN, in anatomy, creeps along the arm, between the skin and the muscles, and divides itself into two branches; the external goes down to the wrist, where it joins the basilica, and turns up to the back of the hand: the internal branch, together with a small one of the basilica, makes the mediana.

The antients used to open this vein for disorders of the head, from which it bears this name; but a better acquaintance with the circulation of the blood informs us, that there is no foundation for such a practice.

CEPHALONIA, the capital of an island of the same name, situated in the Mediterranean, near the coast of Epirus, and subject to the Venetians; east long. 21° , and north lat. $38^{\circ} 30'$.

CEPHALOPHARYNGÆI, in anatomy, the first pair of muscles of the upper part of the gullet, which proceed from beside the head and neck, and are spread more largely upon the tunic of the gullet.

These muscles arise from that part where the head is joined to the first vertebra of the neck, from whence marching downwards, they spread about the pharynx, with a large plexus of fibres, and seem to make its membrane: this streightens the throat in swallowing.

CEPHEUS, in astronomy, a constellation of the northern hemisphere, whose stars, in Ptolemy's catalogue, are thirteen; in Tycho's, eleven; in Hevelius's, forty; and in Mr. Flamsteed's, thirty-five.

CEPI CORPUS; in law, a return made by the sheriff, that, upon a *capias*, or other like process, he has taken the defendant's body.

CEPPHUS, in ornithology, a bird of the gull-kind, not unlike the common duck, excepting its feet and beak. See plate XL. fig. 1. and the article **LARUS**.

CERAM, an island in the indian ocean, between the Molucca-islands on the north, and those of Amboyna and Banda on the south, lying between 126° and 129° east longitude, and in 3° south lat. It is about one hundred and fifty miles long, and sixty broad; and here the Dutch have a fortress; which keeps the natives in subjection.

CERAMBYX, in zoology, a genus of beetles, the characters of which are these: the antennæ are long and setaceous; and the thorax is oblong, rounded, and mucronated or pointed at each extremity. Under this genus is comprehended the capricorn-beetle, and a number of other species.

CERASTIUM, in botany, a genus of the decandria-pentagynia class of plants, the flower of which consists of five bifid petals; and its fruit is a very long unilocular pod, containing numerous roundish seeds.

CERASUS, the **CHERRY-TREE**, in botany, a species of *prunus*. See the article **PRUNUS**.

All the sorts of cherries which are usually cultivated in fruit-gardens, are propagated by budding, or grafting the several kinds into stocks of the black or wild red cherries, which are strong shooters, and of a longer duration than any of the garden-kinds.

CERATE, in pharmacy, a medicine used externally in several diseases, especially those of the skin. It is generally of four sorts, the white cerate, the yellow cerate, the cicatrizing cerate, and the mercurial cerate.

To prepare the white cerate: take of olive-oil four ounces in measure, of white wax four ounces in weight, of spermaceti half an ounce in weight: melt all together, and stir them well, till the cerate is quite cold.

For the yellow: take of yellow basilicon half a pound, of yellow wax an ounce: melt them together.

To prepare the cicatrizing cerate; take of olive-oil a pound; yellow wax, prepared calamy, of each half a pound; melt the wax with the oil, and as soon as the mixture

ture begins to congeal, sprinkle in the calamy, and stir all well, till the cerate is quite cold.

To prepare the mercurial cerate; take yellow wax, tried hog's lard, of each half a pound; of quick-silver three ounces; of the simple balsam of sulphur, a dram: melt the wax with the lard, then add them gradually to the quick-silver, first well divided by the balsam of sulphur.

CERATION, the name given by the antients to the small seeds of the ceratonia, or siliqua, of botanists, used by the arabian physicians, as a weight to adjust the doses of medicines; as the grain weight with us took its rise from a grain of barley.

This was also the name of a silver coin, equal to one third of an obolus.

CERATION, *ceratio*, in chemistry. See the article **WAXING**.

CERATOGLOSSUM, in anatomy, the name of a pair of muscles, serving to draw the tongue directly into the mouth; but if only one of them acts, it draws the tongue to one side of the mouth.

CERATONIA, **CAROB TREE**, in botany, a genus of the dioecia pentandria class of plants: there is no corolla of either male or female: the calyx of the male flower is divided into five parts; the calyx of the female flower has five tubercles; the fruit is a legumen, or pod, divided by several septa; the seed is solitary, roundish, compressed, hard, and shining.

CERATOPHYLLUM, in botany, a genus of the monoeia-polyandria class of plants: there is no corolla; the calyx of the male flower is divided into several legments, as is that of the female flower: there is no pericarpium; the seed is an ovato-acuminated nut, containing only one cell.

CERBERA, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which consists of a single funnel shaped petal; the tube is elevated, the limb large, and divided into five segments: the fruit is a large, round, fleshy drupe, marked with a longitudinal furrow on the side, and containing two cells, in each of which is a single seed, being a nut of an oval figure.

CERCELE, in heraldry. A cross cercele is a cross which opening at the ends, turns round both ways, like a ram's horn. See the article **CROSS**.

CERCIS, in botany, a genus of the decandria-monogynia class of plants: the co-

rolla consists of five petals, inserted into the calyx, and greatly resembles a papilionaceous flower: the fruit is an oblong, obliquely acumined legumen, having only one cell; the seeds are few, roundish, and annexed to the upper suture.

CERCOPITHECUS, in zoology, an appellation given to all the long-tailed monkeys; from *κρη*, a tail, and *πρῆ*, monkey. See **SIMIA** and **MONKEY**.

CERDONIANS, in church history, antient heretics, who maintained most of the errors of Simon Magus, Saturnel, and other gnostics.

They asserted two principles, the one good, and the other evil: this last, according to them, was creator of the world, and the God that appeared under the old law: the first, whom they called unknown, was the father of Jesus Christ, who, they taught, was only incarnate in appearance, and was not born of a virgin, nor suffered death, but in appearance.

CERREALIA, in antiquity, feasts of Ceres, instituted by Triptolemus of Eleusis, in Attica.

These feasts were celebrated with such religious purity, that any one's lying with his wife was accounted pollution. It was not Ceres alone that was honoured here, but also Bacchus: the victims offered were hogs, by reason of the waste they made in the product of the earth.

The cerealia passed from the Greeks to the Romans, who held them for eight days successively, commencing on the 12th of April. It was the women alone who were concerned in the celebrations, all dressed in white; the men were only spectators: they eat nothing till sun set, in memory of Ceres, who, in her search after her daughter, took no repast but in the evening; there were exhibited combats on horseback, though these were afterwards changed into combats of gladiators.

CEREBELLUM, in anatomy, the hinder part of the brain. See the article **BRAIN**. The cerebellum is situated under the posterior lobes of the brain, and the hinder processes of the dura mater, in the lower part of the cavity of the skull; its figure approaches to a globular one; its superficies is less anfractuons or gyrated than that of the brain; but it is furrowed; the furrows are deepest and largest in the middle, and from thence they gradually grow smaller every way, in form of so many segments of circles, till by degrees they

they terminate in what is called the vermiform process.

The substance of the cerebellum, if cut into the right and left parts, appears much the same with that of the brain; but the cortical part is here much more in quantity than the medullary, which, in a very elegant manner, resembles a kind of shrubs, or little trees, the trunks of which form what are called the peduncles of the cerebellum. Though the brain has its several cavities, the cerebellum has none. The lobules of the cerebellum adhere in clusters to the arbusculi medullares: they are surrounded by the pia mater, and compose the far greater part of the cerebellum.

The peduncles of the cerebellum consist of the medullary processes; the first ascends from the cerebellum towards the testes, and forms what is called the *valvula magna* of the brain; the second forms the annular prominence of Willis; and the third descends to the spinal narrow.

CEREBRUM, in anatomy, denotes the brain. See the article **BRAIN**.

CEREBRUM JOVIS, in ichthyology, a name given by the poet Ennius to a species of labrus, called by the generality of writers *scarus*.

CEREMONIAL, in a general sense, something belonging to, or partaking of the nature of ceremonies; thus we say, the ceremonial law, the ceremonial of princes, &c.

The ceremonial law is peculiarly used for the law of Moses, in contradistinction to the moral law; and though wholly taken up about the externals of religion, as rites, ceremonies, sacred utensils, &c. yet so blindly have the superstitious Jews been devoted to it at all times, as to prefer the observance of it to that of the moral law itself; whereas the christian religion teaches us that the chief of these ceremonies, the sabbath, was made for man's use, not man for the sabbath.

CEREMONY, *ceremonia*, an assemblage of several actions, forms, and circumstances, serving to render a thing more magnificent and solemn; particularly used to denote the external rites of religious worship, the formalities of introducing ambassadors to audiences, &c. Judaism has ever been a source of ceremonies; the Jews even now look upon them as a peculiar blessing from God to their nation, and a prerogative of their religion above all others in the world; they admit, however, that it is not absolutely

necessary to the attainment of eternal life to observe them all; it being impracticable for them, whilst without a temple, and without sacrifices, to keep a great many of them. Paganism has not been behind hand with judaism in point of ceremony; so that ceremony may in some measure be styled the essence of both these religions. It is surprising that christianity, whose principles are the most plain and simple, should load itself with so cumbersome a train, that those very people who are obliged to support it, cannot acquit themselves without infinite fatigue and trouble.

Master of the CEREMONIES, an officer instituted by king James I. for the more honourable reception of ambassadors and strangers of quality; he wears about his neck a chain of gold, with a medal under the crown of Great Britain, having on one side an emblem of peace, with this motto, *BEATI PACIFICI*; and on the other, an emblem of war, with *DIEU ET MON DROIT*; his salary is three hundred pounds *per annum*.

Assistant master of the CEREMONIES is to execute the employment in all points, whensoever the master of the ceremonies is absent. His salary is one hundred and forty-one pounds, thirteen shillings, and four pence *per annum*.

Marshal of the CEREMONIES is their officer, being subordinate to them both. His salary is one hundred pounds *per annum*.

Masters of the CEREMONIES to the pope. Of these there are six, whereof two are called assistants, and the other four supernumeraries; the two assistants receive of every new cardinal two hundred and twenty-four crowns of gold, and of the heirs of those who die, an hundred crowns; besides this, their employments bring them in seven hundred crowns. The four supernumeraries receive forty-eight crowns of gold a-piece from every new-created cardinal, and four hundred crowns from the apostolical college. They have an equal authority to regulate all pontifical functions, acquaint the cardinals with their duty, and issue orders to all persons belonging to the court.

CÉRIGO, or **CYTHEREA**, in geography, an island of the Archipelago, on the eastern coast of the Morea, and fifty miles north of the island of Candia.

It is a mountainous country, between forty and fifty miles in circumference, and situated in east longitude $23^{\circ} 40'$, and north latitude 36° .

CERINTHE, *HONEY-WORT*, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of a single petal; the tube is short and thick; the limb is thicker than the tube, and somewhat bellied; it is divided into five segments, and the mouth is open and pervious; the fruit consists of two hard ossaceous bodies, of an oval figure, gibbous on the outside, plane within, acute, emarginated, and containing two cells; the seeds are single, roundish, and acuminate.

CERINTHIANS, in church-history, christian heretics; followers of Cerinthus, who lived and published his heresy in the time of the apostles themselves; they did not allow that God was the author of the creatures, but said, that the world was created by an inferior power; they attributed to this creator an only son, but born in time, and different from the world; they admitted several angels and inferior powers, they maintained that the law and the prophets came not from God, but from the angels; and that the God of the Jews was only an angel; they distinguished between Jesus and Christ, and said, that Jesus was a mere man, born, like other men, of Joseph and Mary; but that he excelled all other men in prudence and wisdom; that Jesus being baptised, the Christ of the supreme God, that is, the Holy Ghost, descended upon him; and that by the assistance of this Christ, Jesus performed his miracles. It was partly to refute this sect that St. John wrote his gospel.

CEROMA, *αργμα*, an ointment made up of oil and wax, with which the ancient wrestlers rubbed themselves, not only to make their limbs more sleek, and less capable to be laid hold on, but also more pliable and fit for exercise.

CEROPEGIA, in botany, a genus of the pentandria-monogynia class of plants, whose flower consists of a single petal; the tube is cylindraceous, oblong, and terminating with a long globose hale; the limb is small, and divided into five segments; the fruit is two cylindraceous acuminate floscules, containing one cell, and divided by two valves; the seeds are numerous, imbricated, and oblong.

CERTAINTY, or **CERTITUDE**. See the article **CERTITUDE**.

CERTHIA, the **CREEPER**, in ornithology, a species of *Ispida*, with a yellowish brown back, variegated with white, and a white breast. See the article **ISPIDA**.

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This is a very singular little bird, brought into the genus of the *Ispida* by the structure of its feet, being not very unlike the common Kingfisher in size, form, and every other obvious particular. It is an extremely small bird, being hardly bigger than a wren.

CERTIFICANDO DE RECOGNITIONE STAPULÆ, a writ issued to the mayor of the staple, commanding him to certify to the lord chancellor a statute-staple taken before him, where the party refuses to bring it.

CERTIFICATE, in law, a writing made in any court, to give notice to another court of any thing done therein. The clerks of the crown, assize, and the peace, are to make certificates into the king's bench of the tenor of all indictments, convictions, outlawries, &c.

CERTIFICATION of assize of novel disseisin, a writ granted for the re-examining passed-by assizes before justices. This writ is used where a person appears by his bailiff to an assize, brought by another, and has lost the day.

CERTIORARI, a writ which issues out of the chancery, directed to an inferior court, to call up the records of a cause there depending, in order that justice may be done. And this writ is obtained upon complaint, that the party who seeks it has received hard usage, or is not like to have an impartial trial in the inferior court. A certiorari is made returnable either in the king's bench, common pleas, or in chancery.

It is not only issued out of the court of chancery, but likewise out of the king's bench, in which last mentioned court it lies where the king would be certified for a record. Indictments from inferior courts, and proceedings of the quarter sessions of the peace may also be removed into the king's bench by a certiorari; and here the very record must be returned, and not a transcript of it; though usually in chancery, if a certiorari be returnable there, it removes only a tenor of the record.

CERTITUDE, considered in the things or ideas which are the objects of our understanding, is a necessary agreement, or disagreement of one part of our knowledge with another: as applied to the mind, it is the perception of such agreement or disagreement; or such a firm well-grounded assent, as excludes not only all manner of doubt, but all conceivable possibility of a mistake.

Y y y

There

There are three sorts of certitude, or assurance, according to the different natures and circumstances of things.

1. A physical or natural certitude, which depends upon the evidence of sense; as that I see such or such a colour, or hear such or such a sound: no body questions the truth of this, where the organs, the medium, and the object are rightly disposed. 2. Mathematical certitude is that arising from mathematical evidence; such is, that the three angles of a triangle are equal to two right ones. 3. Moral certitude is that founded on moral evidence, and is frequently equivalent to a mathematical one, as that there was formerly such an emperor as Julius Cæsar, and that he wrote the Commentaries which pass under his name; because the historians of these times have recorded it, and no man has ever disproved it since: this affords a moral certitude, in common sense so great, that one would be thought a fool or a madman for denying it.

CERT-MONEY, a fine paid yearly by the residents of several manors, to the lord thereof, and sometimes to the hundred, *pro certo lete*, that is, for the certain keeping of the leet.

CERVIA, in geography, a city and port-town of Romania, in Italy, situated on the gulph of Venice, about ten miles south-east of Ravenna, and subject to the pope: east long. 13° , and north lat. $44^{\circ} 30'$.

CERVICAL NERVES, in anatomy, are eight pair of nerves, so called as having their origin in the neck. See **NERVES**. From these eight pair there are innumerable branches distributed thro' the muscles of the head, the neck, the scapula, and the humerus: from the third pair, in particular, there is a branch which runs up to the ear: from the third, fourth, and fifth pair are formed the nerves of the diaphragm, which passing through the neck and breast, descend into the diaphragm: the sixth, seventh, and eighth of these, after they have been joined by various anastomoses, form the six robust nerves of the arm. To this division is the spinal accessory nerve of Willis to be referred, as a sort of ninth pair of nerves of the neck; this arises from the spinal marrow, about the origin of the third or fourth pair, and passes through the great foramen in the os occipitis up into the cranium.

CERVICAL VESSELS, in anatomy, denote the arteries, veins, &c. which pass thro' the vertebræ and muscles of the neck, up to the skull.

CERVICALES DESCENDENTES, a pair of muscles, antagonists to the sacro-lumbares, coming from the third, fourth, fifth, and six vertebræ of the neck.

CERVIX, in anatomy, denotes properly the hinder part of the neck, as contradistinguished from the fore-part, called *jugulum*, or the throat. See **NECK**.

CERVIX of the uterus, or the neck of the uterus, that oblong canal or passage between the internal and external orifices of the womb, which receives and incloses the penis, like a sheath, whence it is also called vagina. See the articles **UTERUS** and **VAGINA**.

In maids it is very narrow, except in the time of the menses, being scarce wide enough to admit a goose-quill: its inner extremity is called the osculum internum, or the internal mouth of the womb; it opens into the vagina in form of the glans penis in men: this part is also very small in virgins, but in women who have had children, or who are big with child, it is larger; and in the last it is always closed up with a glutinous humour. In the time of delivery, it, in a wonderful manner, expands itself, so as to give passage to the child. See **DELIVERY**.

CERUMEN, **EAR-WAX**, or that natural excrement collected in the meatus auditorius, and discharged from the glands of those parts, through the membrane which lines them. It is fluid on its first discharge, but by its continuance it becomes thicker, more solid, viscid, of the consistence of clay, and of a bitterish taste.

CERUSE, or **CERUSS**, **WHITE-LEAD**; a sort of calx of lead, made by exposing plates of that metal to the vapour of vinegar.

The best way of preparing it is the following, as recommended by Boerhaave; a glass-cucurbit is to be cut off in such a manner, as to leave it a very long mouth; an alembic-head of glass is to be fitted to this; some vinegar is to be put into the body, and a number of thin plates of lead are to be placed in the head, in such a manner, that they may stand somewhat erect; when the head is fitted on, the body is to be set in a gentle sand-heat for twelve hours; then unluting the vessels, the receiver, which had been fitted to the nose of the head, will contain a sweet and styptic liquor, nauseous and turbid, called the vinegar of lead, or the solution of lead; and the plates of lead, taken out of the head, will be found covered with a white dusty matter; this is ceruss:

cerufs: and if the operation be repeated, the whole lead will be in fine reduced to this state of cerufs.

Cerufs is used externally either mixed in ointments, or by sprinkling it on old gleet- ing and watry ulcers, and in many diseases of the skin. If when it is reduced into a fine powder, it is received in with the breath in inspiration, and carried down into the lungs, it causes terrible asthma's, that are almost incurable, and at last generally prove fatal; sad instances of the very pernicious effects of this metal are too often seen among those persons who work lead in any form, but particularly among the workers in white-lead.

The painters use it in great quantities; and, that it may be afforded cheap to them, it is generally adulterated with common whiting; the english and dutch cerufs are very bad in this respect; the venetian ought always to be used by apothecaries.

CERUSS of *antimony*, a medicine prepared by distilling powdered regulus of antimony with spirit of nitre, till no more fumes arise; what remains in the retort being pulverised and washed, makes the cerufs of antimony, which is esteemed a powerful diuretic.

CERVUS, the **STAG** or **DEER-KIND**, in zoology, a genus of quadrupeds of the order of the pecora, the characters of which are, that they have deciduous horns, at first hairy, and afterwards naked and smooth; add to this, that there is only one dog-tooth on each side of the upper jaw, and that placed at a distance from the other teeth.

Under this genus are comprehended the camelopardalis, the alce or elk, the ranger or rein-deer, the capreolus, and the stag and fallow-deer. See the articles **CAMELOPARDALIS**, &c.

CERVUS VOLANS, in zoology, the name of the stag-horned beetle, a remarkably large species of beetle, with its horns deeply jagged, or ramified, somewhat like those of a stag. See plate XL. fig. 2.

CESAR and **CESARIAN**. See the articles **CÆSAR** and **CÆSARIAN**.

CESARE, among logicians, one of the modes of the second figure of syllogisms; the minor proposition of which is an universal affirmative, and the other two universal negatives: thus,

CE No immoral books ought to be read:

SA But every obscene book is immoral:

RE Therefore no obscene book ought to be read.

CESENA, a town of Romania, in Italy, about fifteen miles south of Ravenna: east lon. $12^{\circ} 50'$, and north lat. $44^{\circ} 20'$. It is a bishop's see.

CESSATION, *cessatio a divinis*, in the romish church, is when, for any notorious injury to the church, a stop is put to all divine offices and the administration of the sacraments, and christians are deprived of church-burial. A cessation differs from an interdict in this, that, during the latter, divine service may be performed in such churches of any place interdicted, as are not expressly under the interdict, and even be celebrated solemnly on certain high festivals, the church-doors being shut: but in a cessation, no religious service can be performed solemnly; the only liberty allowed, is, in order to renew the consecrated hosts, to repeat, every week, a private mass in the parish-churches, the doors being shut, observing also not to ring the bell. Moreover it is lawful, during the cessation, to administer baptism, confirmation, and penance to such persons as desire it, provided they are not excommunicated, or under an interdict.

CESSAVIT, in law, a writ that lies upon this general ground, that the person against whom it is brought, has for two years neglected to perform the service, or to pay the rent he is obliged to by his tenure, and has not upon his lands sufficient goods or chattels to be distrained. An heir cannot maintain a writ of cessavit for cessure made in the time of his ancestor, unless it be in case of fee-farm rents by statute.

CESSION, in law, an act by which a person surrenders and transmits to another person, a right which belonged to himself. Cession is more particularly used in the civil law for a voluntary surrender of a person's effects to his creditors, to avoid imprisonment. A debtor cannot be admitted to the benefit of cession unless by virtue of letters patent, confirmed in court by the creditors; and in order to obtain that favour, he must make it appear that he has no resource left for payment, nor cannot be reproached with villany or fraud.

Cession implied a mark of infamy, and obliged the person to wear a green cap, which was intended to signify, that the cessionary was become poor through his own folly. The italian lawyers describe the ceremony of cession to consist in striking the bare breech three times against a

Y y y 2

stone,

stone, called *lapis vituperii*, in the presence of a judge. Formerly it consisted in giving up the girdles and keys in court.

There are several debts for which a person cannot be admitted to make a cession of his estate; such are those occasioned by a deposit of public or private money, and in general all those debts accompanied with fraud or perfidy on the part of the debtor: persons condemned in a fine, or damages, for any crime, are also excluded from the benefit of cession; as are merchants who buy in gross to sell in retail, strangers, masters for the wages of their servants, persons who have embezzled the public money, &c. The cession of goods does not liberate a debtor; so that whatever riches he may afterwards acquire, the creditors can seize for their own payment: they are obliged, however, to allow him a livelihood.

CESSION, in the ecclesiastical law, is when an ecclesiastical person is created a bishop, or when a parson of a parish takes another benefice without dispensation, or being otherwise qualified. In both these cases their first benefices become void by cession, without any resignation; and to those livings that the person had, who was created bishop, the king may present for that time, whosoever is patron of them; and in the other case the patron may present: but by dispensation of retainer, a bishop may retain some or all the preferments he was intitled to, before he was made bishop.

CESSIONARY, a term used by some for a bankrupt. See the article **BANKRUPT**.

CESSIONARY, *cessionarius*, likewise denotes the person to whom the cession of goods is made, either voluntarily or judicially. See the article **ASSIGNEE**.

CESSOR, one that ceases or neglects to perform a duty, and for that reason is liable to have the writ *cessavit* brought against him. See the article **CESSAVIT**.

CESTRUM, in botany, a genus of the pentandria-monogynia class of plants, the flower of which is monopetalous, of a funnel-form, with a cylindrical and very long and slender tube, and a plane plicated limb, divided into five equal ovated segments; the fruit is an oblong oval berry, with one cell, containing numerous roundish seeds.

CESTUI, a french word, signifying *he or him*, frequently used in our law-writings. Thus, *cestui qui trust*, a person who has lands, &c. committed to him for the be-

nefit of another: and if such person does not perform his trust, he is compellable to it in chancery.

Cestui qui vie, one for whose life any lands, &c. are granted.

Cestui qui use, a person to whose use any one is infeoffed of lands or tenements. Formerly the feoffees to uses were deemed owners of the land, but now the possession is adjudged in *cestui qui use*.

CESTUS, among antient poets, a fine embroidered girdle said to be worn by Venus, to which Homer ascribes the faculty of charming and conciliating love.

CESTUS, or **CÆSTUS**, among the antient athletes. See the article **CÆSTUS**.

CETACEOUS, an appellation given to a class or order of fishes, otherwise called *plagiuri*. See the article **PLAGIURI**.

The term cetaceous, though properly only applicable to the whale-kind, has nevertheless been used to denote any large fish, as the shark, sea-fox, &c.

CETE, the **SPERMACETI WHALE**, in ichthyology, a species of the catodon with the fistula in its neck.

CETERACH, **SPLEEN-WORT**, in pharmacy, a genus of plants called by Linnaeus *asplenium*. See **ASPENIUM**.

The leaves of this plant, gathered in September, are reckoned detergent, and extolled by Dioscorides in curing all diseases of the spleen.

They are also recommended in obstructions of the liver, the jaundice, a quartan fever, for comminuting the stone, and promoting the menses and urine.

CETTE, a port town of Languedoc, in France, situated on a bay of the Mediterranean, in east longitude $3^{\circ} 16'$, and north latitude $43^{\circ} 25'$.

CETUS, in astronomy, a constellation of the southern hemisphere, comprehending twenty-two stars in Ptolemy's catalogue, twenty-one in Tycho's, and in the Britannic catalogue seventy-eight.

CEVA, a town of Piedmont, in Italy, situated on the river Tanaro, near the confines of the republic of Genoa, and about forty-two miles south-east of Turin; east longitude $8^{\circ} 6'$, and north lat. $44^{\circ} 25'$.

CEURAWATH, the name of a particular sect of banians, in the East-Indies, who hold the metempsychosis with so much superstition, that they will not kill the least insect: their priests carry a piece of linen over their mouth, that no flies may enter. All the other sects of the banians have an aversion for this, and continually exhort

exhort their auditors to shun all discourse and conversation with them. See the article BANIANs.

CEUTA, a city of the kingdom of Fez, in Africa, situated on the south side of the streights of Gibraltar, almost opposite to it; west longitude $6^{\circ} 30'$, and north latitude $35^{\circ} 50'$.

It is a strong fortress, in possession of the Spaniards.

CEYLON, an island in the indian ocean, situated between 78° and 82° east longitude, and between 6° and 10° north latitude.

It is about two hundred and fifty miles long, and two hundred broad. The Dutch, who are in possession of all the sea-coast, monopolize all the cinnamon produced in the island, the king being obliged to keep in the center of the island, in his capital of Candy.

CHACABOUT, the name of a sect of the religion of the Tonquinois, between China and the Indies: they believe in the metempsychosis, and that such as receive their law, without observing it as they ought, shall, for the space of three thousand years, ramble in different bodies, to fit them for the mansions of the happy.

CHACE, or **CHACING**. See the articles CHASE and CHASING.

CHACK, in the manege, is said of a horse, when his head is not steady, but he tosses up his nose, and shakes it all of a sudden, to avoid the subjection of the bridle.

In order to fix and secure his head, you need only to put under his nose-band a small flat band of iron bended archwise, which answers to a martingale.

CHACONE, a kind of dance in the air of a saraband, derived from the Moors. The bass consists of four notes, which proceed in conjunct degrees, making divers concords and couplets with the same burden.

CHÆLÆ CANCRORUM, CRAB'S CLAWS. See the article CRAB.

CHÆROPHYLLUM, **CHERVIL**, in botany, a genus of the pentandria-digynia class of plants, the universal flower of which is almost uniform; the proper flowers consist of five inflexo-cordated petals, the exterior being somewhat the largest; there is no pericarpium; the fruit is ovato-oblong, acuminate, and separable into two parts, containing two oblong seeds, attenuated at the top, convex on one side and plane on the other.

Chervil-leaves are said to be good for pro-

moting urine and the menses, but are seldom prescribed.

CHÆTIA, in zoology, a genus of insects of the order of the apteria, the characters of which are these: the body is long, slender, and rounded, resembling a hair, or a piece of fine thread; and hence called, in english, the hair-worm, or guinea-worm.

CHÆTODON, in ichthyology, a genus of fishes, of the acanthopterygious order, the characters of which are these: the branchiostegic membrane on each side contains four or five small bones; and the teeth are oblong, contiguous, and flexible.

Under this genus are comprehended several species, distinguished by having 46, 41, 38, 37, 36, and 33 rays in the back-fin.

CHAFE, or **CHAFING** of a rope, is said of a rope that is galled or fretted: thus, the cable is chafed in the hawse; that is, begun to be worn out there.

CHAFERY, a forge in an iron mill, where the iron is hammered out into complete bars, and brought to perfection.

CHAFE-WAX, an officer in the chancery, who fits the wax for sealing writs, patents, and other instruments issued out from thence.

CHAFF, in husbandry, the refuse, or straw that is separated from corn, by screening or winnowing it.

CHAFFERCOUNCES, printed linens, manufactured in the mogul's dominions, and imported to Europe by way of Surat.

CHAFFERS, in our old records, signify wares or merchandize; and hence the word chaffering is used for buying and selling.

CHAFF-FINCH, in ornithology, the english name of the *fringilla*, with an iron-coloured breast, and black wings spotted with white. See FRINGILLA.

The chaff-finch is a hardy bird, living upon any kind of seeds.

CHAFFING of ropes. See CHAFE.

CHAGRE, a fort at the mouth of a river of the same name, a little south of Porto Bello; west longit. 82° , and north latitude $9^{\circ} 50'$.

CHAIN, *catena*, a long piece of metal composed of several links or rings, engaged the one in the other. They are made of divers metals, some round, some flat, others square; some single, some double; and serve to so many uses, that it would be tedious to give a particular account

account of them all. A gold chain is one of the badges of the dignity of the lord mayor of London, and remains to the person after his being divested of that office, as a mark that he has passed the chair.

CHAIN is also a kind of measure in France, in the trade of wood for fuel; there are chains for wood by tale, for wood by the rope, for faggots, for cleft wood, and for round sticks; there are also chains measuring the sheaves of all sorts of corn, particularly with regard to the payment of tythes; for measuring bottles of hay, and for measuring horses; all these are divided into feet, inches, hands, &c. according to the use they are designed for.

CHAIN is also a string of gold, silver, or steel-wire, wrought like a tissue, which serves to hang watches, tweezer-cases, and other valuable toys upon. The invention of these pieces of workmanship was derived originally from England, whence foreigners give them the name of chains of England.

In making these chains, a part of the wire is folded into little links, of an oval form, the longest diameter about three lines, the shortest one. These, after they have been exactly foldered, are again folded into two, and then bound together and interwoven by means of several other little threads of the same thickness, some of which passing from one end to the other, imitate the warp of a stuff, and the others, which pass transversely, the woof; there are at least four thousand little links in a chain of four pendants, so equally, and at the same time so firmly connected, that the eye takes the whole to consist of one piece.

CHAINS in a ship, those irons to which the shrouds of the masts are made fast to the chain-walls.

CHAIN-WALLS, in a ship, the broad timbers which are made jetting out of her sides, to which the shrouds are fastened and spread out, the better to secure the masts.

CHAIN-SHOT, two bullets with a chain between them. They are used at sea to shoot down yards or masts, and to cut the shrouds or rigging of a ship.

CHAIN-PUMP. See the article **PUMP**.

CHAIN, in surveying, a measure of length, made of a certain number of links of iron-wire, serving to take the distance between two or more places.

Gunter's chain of 100 such links, each measuring $7\frac{1}{4}$ inches, and consequently equal to 66 feet, or four poles.

When you are to measure any line by this chain, you need have regard to no other denomination than chains and links, which are to be set down with a full point between them. Thus, for instance, if the side of a close is found to be 10 chains 14 links, it must be set down thus, 10. 14. But if the links be under 10, a cypher must be prefixed; thus 10 chains 7 links, must be set down 10. 07.

Then if the field be a square or parallelogram, if you multiply the length expressed in chains and links, by the breadth expressed in the same manner, and cut off five figures from the product, those towards the left hand will be acres; then multiply the separated figures by four, cutting off the same number of figures, and you will have the roods or quarters of an acre; and lastly multiply the remaining figures by 40, cutting off five as before, and you will have the square perches.

To take an angle as BAC by the chain (plate XL. fig. 3. N^o 1.) measure along the side AB any small distance as AD , and measure the like distance along the side AC to E ; then measure the distance DE , which will be the chord of the angle BAC or arch ED . To plot this angle, draw the line AB at pleasure, and from the scale set off the distance AD . Then from the center A with the radius AD , describe with your compasses the arch DE , and set off on it the distance DE from D to E ; then from A draw AC through the point E , and you have the angle required. See the articles **SCALE**, **CHORD**, &c.

The same method may be used in surveying a field, by resolving it into triangles, and measuring the sides and angles. But if the field has but four angles, as in the above figure, you need only measure the sides and one of the angles, as BAG ; for when that is plotted, according to the foregoing directions, and the length of the sides set off from A to B and C , if you take the length of the side CD in the compasses, and setting one foot in C describe a small arch; also with the length of the side BD , one foot being placed in B , cross the former arch in D , then draw the lines CD and BD , you will have the true plot of the field required.

By the chain to find the distance between two objects inaccessible in respect to each other. From some place as C , (*ibid.* N^o 2.) whence the distance between each object

A and

A and B and the said place is accessible in a right line, measure the distance C A, and continue the line to D, making C D equal to C A : measure also B C, and produce the line to E, till C E be equal to C B. Join D E; and the triangle C D E is equal and similar to the triangle A B C, the distance D E being measured, will give the inaccessible distance required.

CHAIR, *cathedra*, was antiently the suggestion, or pulpit, whence the priest or public orator spoke to the people. See the article **CATHEDRA**.

It is still applied to the place whence professors or regents in the universities, deliver their lectures : thus we say, the professor's chair. It is also applied to the chief magistrate of a city, or rather to the seat appropriated to his office : thus we say, next the chair.

Curule-CHAIR, an ivory seat placed on a car, wherein were seated the chief magistrates of Rome, and those to whom the honour of a triumph was granted.

CHAIR, among the roman-catholics, certain feasts held antiently in commemoration of the translation of the see or seat of the vicarage of Christ, by St. Peter.

CHAIR-MAN, the president or speaker of an assembly. See **PRESIDENT**.

CHAISE, a sort of light, open chariot, or calash. See **CHARIOT**.

CHALASTICS, an appellation given to relaxing medicines, as oil, butter, &c.

CHALAZA, among naturalists, a white knotty sort of string at each end of an egg, formed of a plexus of the fibres of the membranes, whereby the yolk and white are connected together. See **EGG**.

CHALCANTHA, in natural history, a kind of compound salts, of a coarse and irregular structure, considerably hard, and naturally impure and opaque.

Of these, authors enumerate a great many species, as the brownish red chalcantum, or chalcitis of the antients; the yellow chalcantum, or misy of the Greeks; the blackish chalcantum, or sory of the antients, and rusma of the moderns; and the gold-coloured, friable chalcantum, or melanteria of the antients. See the articles **CHALCITIS**, **MISY**, &c.

CHALCEDONY, *chalcedonius*, in natural history, a genus of semipellucid gems, of an even and regular not tabulated texture, of a semi-opaque, crystalline basis, and variegated with different colours, dispersed in form of mists and clouds, and, if nicely examined, found to be owing to an admixture of various kinds of earths,

but imperfectly blended in the mass, and often visible in distinct molecular.

Of this genus there are a great many species, as the bluish-white chalcedony; the brownish-black chalcedony, or smoaky jasper or capnitis of the antients; and the yellow and red chalcedony.

All the chalcedonies give fire readily with steel, and make no effervescence with aqua-fortis.

CHALCIDICA, or **CHALCIDICUM**, in ancient architecture, a magnificent hall belonging to a tribunal or court of justice. Some writers make it the court where affairs of coinage were regulated; others, the mint itself. Vitruvius uses it for the auditory of a basilica; and sometimes it expresses the apartment where the gods were imagined to eat.

CHALCITIS, the name given by the antients to the brownish-red chalcantum, of a soft and friable substance, and shewing a very irregular surface when broken; being composed of five or six series of short, waved and undulated strizæ. See the article **CHALCANTHA**.

It is found in many parts of the turkish dominions, and is given internally by some after calcination, in fluxes and hæmorrhages.

CHALDEA, or **BABYLONIA**, the antient name of a country of Asia, now called Eyraç Arabic. See **EYRAÇ ARABIC**.

CHALDEE, or **CHALDAIC language**, that spoken by the Chaldeans, or people of Chaldea: it is a dialect of the Hebrew.

CHALDEE paraphrase, in the rabbinical stile, is termed targum; See **TARGUM**.

CHALDRON, a dry english measure, consisting of thirty-six bushels, heaped up according to the sealed bushel kept at Guild-hall, London: but on ship-board, twenty-one chaldron of coals are allowed to the score. The chaldron should weigh two thousand pounds.

CHALICE, the cup or vessel used to administer the wine in the sacrament; and by the roman-catholics in the mass.

The use of the chalice, or communicating in both kinds, is, by the church of Rome, denied to the laity, who communicate only in one kind; the clergy alone being allowed the privilege of communicating in both kinds.

CHALIZA, in hebrew antiquity, the ceremony whereby a woman left a widow, pulled off her brother-in-law's shoes, who should have espoused her; after which she was at liberty to marry whom she pleased. See the article **WIDOW**.

CHALK,

CHALK, in natural-history, the english name of the white, dry marle, with a dusty surface, found in hard masses, and called by authors *creta*, and *terra creta*. Chalk thrown into water, raises a great number of bubbles, with a hissing noise, and slowly diffuses itself into an impalpable powder. It ferments more strongly with acids than any other earth, and burns to lime.

As a medicine, chalk deserves, perhaps, the highest place among the alkaline absorbents; nor is it less useful in many of the ordinary affairs of life. Its use in cleaning various utensils is well known, and it is in no small repute as a manure, especially for cold sour lands; in which intention the soft unctuous chalk is most proper, as the dry, hard, and strong chalk is for lime. It is a great improver of lands, and will even change the very nature of them. However, it is most advisable to mix one load of chalk, with two or three of dung, mud, or fresh mould, whereby it will become a lasting advantage to the ground: the common allowance is fourteen loads of chalk to every acre.

Black CHALK, among painters, denotes a kind of ochreous earth, of a close structure, and fine black colour, used in drawing upon blue paper.

Red CHALK, an indurated clayey ochre, common in the colour-shops, and much used by painters and artificers.

CHALK JULEP. See the article **JULEP**.

CHALKY LAND, that lying on a chalky bottom, whereby it is strongly impregnated with the virtues of the chalk.

These lands naturally produce may-weeds, poppies, &c. Saint-foin and trefoil likewise agree with them; and their best produce of corn is barley or wheat, though oats will likewise do well on them.

The best manure for chalky lands is rags, dung, and folding ot sheep. If rain happens to fall on them just after sowing, it binds the earth so hard, that the corn cannot pass thro' it. To prevent which misfortune, it is usual to manure these lands with half-rotten dung, with which some mix sand.

CHALLENGE, a cartel, or invitation to a duel, or other combat. See the article **DUEL**.

CHALLENGE, in law, is an exception made to jurors, who are returned to a person on a trial.

This challenge is made either to the array, or to the polls: to the array, when exception is taken to the whole number of jurors impannelled; and to the polls, when an exception is made to one or more of the jury as not indifferent.

Challenge to the jurors is likewise divided into challenge principal or peremptory, and challenge for cause; that is, upon cause or reason alledged. Challenge principal, is what the law allows without any cause alledged, or further examination: as a prisoner arraigned at the bar for felony, may challenge peremptorily the number allowed him by law, being twenty, one after another, alledging no further cause than his own dislike; and the jurors, so challenged, shall be put off, and new ones taken in their places.

In cases of treason and petit-treason, the number of thirty-five jurors may be peremptorily challenged, without shewing any cause; and more, both in treason and felony, may be challenged, shewing cause.

If those who prosecute for the king challenge a juror, they are to assign the cause; and if the cause alledged be not a good one, the inquest shall be taken. When the king is party, if the other side challenge any juror above the number allowed, he ought to shew cause of his challenge immediately, while the jury is full, and before they are sworn.

There may be a principal cause of challenge in civil actions, and a challenge for favour. The principal challenge is in respect of partiality, or default of the sheriff, &c. Challenge for favour, is when the plaintiff or defendant is tenant to the sheriff, or if the sheriff's son has married the daughter of the party, &c.

CHALLENGE, among hunters. When hounds or beagles, at first finding the scent of their game, presently open and cry, they are said to challenge.

CHALLONS *on the Marne*, the capital of the Challonois, in the province of Champagne, in France, situated eighty-two miles east of Paris, and thirty south-east of Rheims; east longitude $4^{\circ} 35'$, north latitude $48^{\circ} 55'$.

It is a bishop's see.

CHALLONS *on the Soan*, a city of Burgundy, in France, thirty-two miles south of Dijon; east long. 5° , north lat. $46^{\circ} 40'$.

It is the see of a bishop.

CHALYBEAT, in medicine, an appellation

tion given to any liquid, as wine or water, impregnated with particles of iron or steel.

Chalybeates act chiefly as absorbents and deobstruents. The action of the particles of a chalybeate, by their elasticity, together with the momentum they give the blood by their ponderosity, makes it not only preferable to most other deobstruents, but also proper in other cases; especially where there is a viscosity of the juices, the blood depauperated, and where the circulation is languid, as in most hectic and hypochondriac cases, &c.

Dr. Short, in his history of the mineral waters, has classed them into the warm purging chalybeat, diuretic chalybeat, purging and plain sulphur-waters.

Of the warm purging chalybeat waters, that of Buxton seems to be the principal. See the article BUXTON-WELLS.

The purging chalybeat contains a mineral spirit, sulphur, vitriol, nitre, and sea-salt, with a calcareous earth, of which some particles are attracted by the loadstone, which proves them to be iron: of these, the Scarborough-spaw is now in greatest reputation. See SCARBOROUGH. The diuretic chalybeat water consists of much the same principles with the former class, only the salts are in less proportion; of these there are great numbers in Yorkshire.

Dr. Monro, professor of anatomy at Edinburgh, by pouring a tincture of galls into common water, and dissolving therein a small quantity of sal martis, adding some filings of iron and oil of vitriol, procured a water exactly like the natural chalybeat waters; and he is of opinion, that where these are not to be had, the artificial water may be made to answer all their intentions, according to its being more or less closely kept, or exposed in the air or heat, &c. *Vide Med. Ess. Edinb.*

CHAM, or KHAM, a word of much the same import with king in english: it is the title of the sovereign princes of Tartary, and is likewise applied to the principal noblemen of Persia.

CHAM, in geography, a town of the bavarian palatinate, situated on a river of the same name, about twenty-five miles north-east of Ratibon; east long. 13°, north lat. 47° 15'.

CHAMA, in the history of shell fish, is reckoned by Linnæus a species of concha, distinguished by its convex, equal, and patent valves. See CONCHA.

Others make the chama a distinct genus,

the shell of which is formed of two valves, which are both convex, or gibbous, and equal; and though shut, always leave an opening in one part.

There is a great variety among the several species of chama; some being perfectly smooth, some striated, and some rugose, or even spinose; whilst others are oblong, others roundish; some equilateral, and others not so, &c.

Among a great many elegant species of this genus, we may reckon, 1. The *concha veneris*, or Venus's shell, with a spinose edge. 2. The agate-chama. And, 3. The zizac chama.

CHAMADE, in war, a signal made by beat of drum for a conference with the enemy, when any thing is to be proposed; as a cessation of arms, to bring off the dead, or a signal made by the besieged, when they have a mind to deliver up a place upon articles of capitulation: in which case there is a suspension of arms, and hostages delivered on both sides.

CHAMÆDRYS, GERMANDER, according to Tournefort, makes a distinct genus of plants; but is ranged by Linnæus under teucrium. See TEUCRIUM.

CHAMÆLEON, *chamæleo*, in zoology, a species of lizard with a short rounded tail, five toes on each foot, two or three of which adhere together. See LIZARD.

There are four distinct varieties of this animal. 1. The arabian kind, which is small, and hardly exceeding the green lizard in size: this is of a whitish colour, variegated with yellowish and redish spots.

2. The ægyptian, which is twice as large as the arabian, and is of a middle colour between the whitish hue of the arabian and a fair green: this changes its colour to a paler or deeper yellow.

3. The mexican. And fourthly, a kind sometimes shewn about as a sight, and met with by J. Faber Lynceus at Rome, which differed from all the others. The arabian and mexican chameleons seldom exceed six inches in length; the ægyptian is nine or more; its head is large, but the thickness of its body is not to be determined, as the creature alters that at pleasure, as it more or less inflates its body; and this inflation not only goes through the whole body, but into the legs and tail. This inflation is not at all like the breathing of other animals, for the body when thus puffed out will remain so two hours, only gradually and insensibly sinking all the time, and afterwards will be inflated again, but that

much more quickly than it subsided. It is able a long time to continue either of these states, but more frequently remains empty for a considerable space, in which time, though before it appeared in good case, it looks miserably lean and lank, and its back-bone may be seen perfectly, its ribs counted, and even the large tendons of the feet distinctly observed by the naked eye through the skin. The back-bone, however, is not serrated as many have affirmed, but makes, in this its lean state, a plain sharp ridge, and the whole animal looks so miserably meagre, that it has not unaptly been called a living skin. The head is very like that of some fishes, and is joined almost immediately to the breast, the neck being extremely short, and has at the sides two cartilaginous eminences, in the manner of fishes. It has a crest standing up in the middle of the forehead, and two others over the eyes, and between the crests there are two remarkable depressions, the nose and mouth running from the eyes with a double edge to the end of the snout, resemble those of a frog: at the extremity of the nose there are two perforations, which seem to serve as nostrils; the mouth being always kept close shut, and the creature appearing to have no power of respining but by means of these. Its mouth is furnished with teeth, or rather with continued denticulated bones. These are of no service to the creature in eating, since it preys on flies, and swallows them whole; but may serve for its defence in holding fast a stick in its mouth, which, according to *Ælian*, this creature does, placing the stick cross-ways, to prevent its being swallowed by serpents.

The structure and motion of this creature's eyes is very surprising; they are very large, and set in large cavities, appearing to be large spheres, of which one half stands out of the head, and is covered with a thin skin, perforated with a small hole at the top, through which is seen a very vivid and bright pupil, surrounded with a yellow iris; this hole is properly a longitudinal slit, which the creature opens more or less wide at pleasure, and the eye seems fixed to this eyelid so as to follow all its motions, not turning round within it, as in other creatures. The motion of the eyes of this creature is not less singular than their structure, since it can turn them so as to see what passes either far backward, on either side, or directly behind it, without

at all moving the head, which is fixed to the shoulders, and the creature can give one eye all these motions while the other is perfectly still. The trunk of the body is properly all breast; for the creature has no belly, its ribs being continued to the ilia; the feet have all five toes, two behind, and three before, the hinder ones being as large as the others. This creature moves as slow as the tortoise, which appears very singular, as its legs are sufficiently long, and it has no great weight of body to carry; but it is said, that on trees, in its wild state, it moves very nimbly. Its tail when inflated is round as that of a rat or snake; when empty, it is very lank, and has three longitudinal ridges running along it, which are owing to the apophyses of the spine. This tail is a great safety to the creature on trees, as it twists it round the branches when in any danger of falling.

The skin of the *chamæleon* from the head to the last joint of the tail is, according to some, plaited, and rough like a saw; but *Dr. Goddard* affirms, that it is grain-ed like shagreen; the biggest grains being about the head; the next on the ridge of the back. The tongue is half as long as the animal; it consists of a white flesh, round as far as the tip, which is hollow, like an elephant's trunk, whence some call it a trunk. This it can dart out very nimbly, and draw in again, over a bone that reaches from the root half its length. The great use of its tongue is to catch flies: some say the tongue is tipped with a glutinous matter which the flies stick to. The royal academy of sciences at Paris frequently observed the *chamæleon* which they had to catch and swallow flies; they found also the signs of them in its fæces: and, upon dissection, the stomach and intestines were found full of them. So that the common tradition of the *chamæleon's* living upon air proves contrary to experience.

The *chamæleon* has been supposed, by both the ancients and moderns, to have a faculty of changing its colour, and assuming that of the objects near it. *M. Per-rault* assures us, that the colour of the *chamæleon*, when at rest and in the shade, is somewhat various; that at Paris was a bluish grey; but, when exposed to the sun, became a darker grey; and its less illuminated part changed into divers colours; forming spots, half as big as one's finger end, some of an isabella colour;

colour ; the grains, not illuminated at all, resembled a cloth of divers colours. That described by Dr. Goddard in the philosophical transactions was of several colours, a green, a sandy yellow, and a deeper yellow, or liver colour ; but one might easily imagine some mixture of all colours. He adds, that upon rubbing or warming, it suddenly became full of black spots, as big as a large pin's head, equally dispersed on the sides, all which would afterwards vanish. Mr. Perrault observes something like this of the Paris chamæleon, that upon handling or stirring, it would appear stained with dark spots, bordering on green : and that, wrapping it up in a linen cloth for a few minutes, it would come out whitish, though not always so ; but would not take the colour of any other stuff it was wrapped in. So that what Theophrastus and Plutarch write of its assuming all the colours it comes near, is contrary to experience. Monconys assures us, that the chamæleon, when placed in the sun, appears green, though near no green object ; that it appears black by the candle, though placed on white paper ; and that, when shut up in a box, it becomes yellow and green : and he says, that it never assumes any other colour than these.

Naturalists, are very little agreed, as to the reason of this change of colour ; and therefore we shall not repeat their several hypotheses, the following being sufficient for our purpose.

The chamæleon is represented as an exceeding lean animal, insomuch that the Italians call it a living skin. M. Perrault observes of that he dissected in the king's library, that one hour it appeared to be a mere skin, and yet the next it would appear plump. Hence we gather that it must have a very great command over the skin as to tension and laxity. Now, the animal, having it in his power to fill the skin more or less, cannot only alter the texture of the fibres, upon which their reflexive quality greatly depends ; but also to bring parts into sight which before lay concealed, or to conceal such as before lay open : and it is more than probable, that the parts commonly covered are of a somewhat different colour from those always open to the air. On these principles, probably, all the phenomena in the chamæleon's colour may be solved. The animal, it is plain, has a power of reflecting different coloured rays from the same parts ; and likewise mak-

ing certain parts reflect, and prevent others from doing so ; and hence that medley of colours.

CHAMÆLEON-THISTLE, *ixia*, in botany. See the article *IXIA*.

CHAMÆMILE, *chamæmelum*, **STINKING MAY-WEED**, in botany, the same with the anthemis of Linnæus. It belongs to the syngenesia-polygamia-superflua class of plants ; its flower is of the compound, radiated kind ; and its fruit is a single, oval, compressed, and naked seed, contained in the calyx, or cup of the flower.

Chamæmile-flowers are given in infusion by way of emetic, are used in emollient decoctions, and are always an ingredient in clysters. The dried leaves are accounted laxative and emollient, and said to promote urine and the menses.

CHAMÆPITYS, **GROUND-PINE**, in botany, makes a distinct genus of plants, according to Tournefort, but is comprehended under *teucrium* by Linnæus. See the article *TEUCRIUM*.

CHAMÆROPS, in botany, a genus of plants, the class of which is not yet perfectly ascertained ; the corolla of the hermaphrodite flower is divided into three parts ; the petals are ovated, erect, acute, and inserted at the top : it contains six stamina : the fruit consists of three berries, globose, with one cell, containing solitary, globose seeds. The corolla of the male flower is the same as in the hermaphrodite.

CHAMANIM, in jewish antiquity, idols, exposed to the sun upon the tops of houses, according to Rabbi Solomon : others will have the chamanim to be the same with what the Greeks call *pyræa*, that is, portable chapels, or temples, made in the form of chariots, in honour of the sun.

CHAMBER, in building, any room situated between the lowermost and the uppermost rooms : in most houses there are two, in others three or more stories of chambers. Sir Henry Wotton directs, that the principal chambers for delight, be situated towards the east. Palladio's rules for the height of chambers, anti-chambers, and halls, either flat or arched, are as follows. 1. If they be flat, he advises to divide the breadth into three parts, and to take two of them for the height of the story from the floor to the joist. If the chamber is desired higher, the breadth must be divided into seven, of which take five for the height. 2. The height of the second story, should be $\frac{1}{2}$ less than

that of the chambers below. 3. For an attic or third story, the second must be divided into twelve equal parts; nine of which will give the height from the floor to the bottom of the joists.

Bed-CHAMBER, one with a bed in it. See the article **BED**.

Privy-CHAMBER. Gentlemen of the privy chamber, are servants of the king, who are to wait and attend on him and the queen at court, in their diversions, &c. Their number is forty-eight under the lord-chamberlain, twelve of whom are in quarterly waiting, and two of these lie in the privy-chamber.

In the absence of the lord chamberlain, or vice-chamberlain, they execute the king's orders: at coronations, two of them personate the dukes of Aquitaine and Normandy: and six of them, appointed by the lord-chamberlain, attend ambassadors from crowned heads to their audiences, and in public entries. The gentlemen of the privy-chamber, were instituted by Henry VII.

CHAMBER, in policy, the place where certain assemblies are held, also the assemblies themselves. Of these, some are established for the administration of justice, others for commercial affairs.

Of the first kind are, 1. Star-chamber, so called, because the roof was painted with stars; the authority, power, and jurisdiction of which are absolutely abolished by the statute 17 Car. I. 2. Imperial chamber of Spire, the supreme court of judicatory in the empire, erected by Maximilian I. This chamber has a right of judging by appeal, and is the last resort of all civil affairs of the states and subjects of the empire, in the same manner as the aulic council of Vienna. Nevertheless it is restrained in several cases; it takes no notice of matrimonial causes, these being left to the pope; nor of criminal causes, which either belong to particular princes or towns in their respective territories, or are cognizable by all the states of the empire in a diet. By the treaty of Osnaburg, in 1648, fifty assessors were appointed for this chamber, whereof twenty-four were to be protestants, and twenty-six catholics, besides five presidents, two of them protestants, and the rest catholics. 3. Chamber of accounts, a sovereign court in France, where accounts are rendered of all the king's revenues, inventories, and avowels thereof registered, oaths of fidelity taken, and other things relating

to the finances transacted. There are nine in France, that of Paris is the chief; it registers proclamations, treaties of peace, naturalizations, titles of nobility, &c. All the members wear long black gowns of velvet, of sattin or damask, according to their places. 4. Ecclesiastical chambers in France, which judge by appeal of differences about collecting the tithes. 5. Chamber of audience, or grand chamber, a jurisdiction in each parliament of France, the counsellors of which are called *jugeurs*, or judges, as those of the chamber of inquests are called *rapporteurs*, reporters of processes by writing. 6. Chamber of the edict, or mi-party, a court established by virtue of the edict of pacification, in favour of those of the reformed religion. This chamber is now suppressed. 7. Apostolical chamber of Rome, that wherein affairs relating to the revenues of the church and the pope are transacted. This council consists of the cardinal-camerlingo, the governor of the rota, a treasurer, an auditor, a president, one advocate-general, a solicitor-general, a commissary, and twelve clerks. 8. Chamber of London, an apartment in Guildhall, where the city money is deposited.

Of the last sort are, 1. The chambers of commerce. 2. The chambers of assurance. And, 3. The royal or syndical chamber of booksellers in France.

The chamber of commerce is an assembly of merchants and traders, where the affairs relating to trade are treated of. There are several established in most of the chief cities of France; and in our own country, we have lately seen chambers of this kind erected for carrying on the british herring fishery. Chamber of assurance in France, denotes a society of merchants and others for carrying on the business of insuring; but in Holland, it signifies a court of justice, where causes relating to insurances are tried. Chamber of booksellers in Paris, an assembly consisting of a syndic and assistants, elected by four delegates from the printers, and twelve from the booksellers, to visit the books imported from abroad, and to search the houses of sellers of marbled paper, print-sellers, and dealers in printed paper for hangings, who are prohibited from keeping any letters proper for printing books. In the visitation of books, which ought to be performed by three persons at least from among the syndic and assistants, all libels against the honour

nour of God and the welfare of the state, and all books printed either within or without the kingdom in breach of their regulations and privileges, are slooped, even with the merchandizes that may happen to be in the bales with such libels, or other prohibited books. The days appointed for this chamber to meet, are Tuesdays and Fridays, at two o'clock in the afternoon.

CHAMBER, in war, is said, 1. Of a powder-chamber, or bomb-chamber, a place sunk under ground for holding the powder or bombs, where they may be out of danger, and secured from the rain. 2. Of the chamber of a mine, the place, most commonly of a cubical form, where the powder is confined. And, 3. Of the chamber of a mortar, that part of the chase, much narrower than the rest of the cylinder, where the powder lies. It is of different forms, sometimes like a reversed cone, sometimes globular, with a neck for its communication with the cylinder, whence it is called a bottled chamber, but most commonly cylindrical, that being the form which is found by experience to carry the ball to the greatest distance.

CHAMBERDEKINS, in old writers, were poor irish scholars, clothed in mean habits, and living under no rule. They were banished England by statute Henry V. cap. 8.

CHAMBERLAIN, an officer charged with the management and direction of a chamber. See the article **CHAMBER**. There are almost as many kinds of chamberlains as chambers, the principal whereof are as follow.

Lord CHAMBERLAIN of Great Britain, the sixth great officer of the crown; to whom belongs livery and lodging in the king's court; and there are certain fees due to him from each archbishop or bishop, when they perform their homage to the king; and from all peers at their creation; or doing their homage. At the coronation of every king, he is to have forty ells of crimson velvet for his own robes. This officer, on the coronation-day, is to bring the king his shirt, coif, and wearing cloaths; and after the king is dressed, he claims his bed, and all the furniture of his chamber for his fees: he also carries at the coronation, the coif, gloves, and linen to be used by the king on that occasion; also the sword and scabbard, the gold to be offered by the king, and the robes-royal and crown: he dresses and undresses the king on that day,

waits on him before and after dinner &c. To this officer belongs the care of providing all things in the house of lords, in the time of parliament; to him also belongs the government of the palace of Westminster: he disposes likewise of the sword of state, to be carried before the king, to what lord he pleases.

Lord CHAMBERLAIN of the household, an officer who has the oversight and direction of all officers belonging to the king's chambers, except the precinct of the king's bed-chamber.

He has the oversight of the officers of the wardrobe at all his majesty's houses, and of the removing wardrobes, or of beds, tents, revels, music, comedians, hunting, messengers, &c. retained in the king's service. He moreover has the oversight and direction of the serjeants at arms, of all physicians, apothecaries, surgeons, barbers, the king's chaplains, &c. and administers the oath to all officers above stairs.

Other chamberlains, are those of the king's court of exchequer, of north Wales, of Chester, of the city of London, &c. in which cases this officer is generally the receiver of all rents and revenues belonging to the place whereof he is chamberlain.

In the exchequer there are two chamberlains, who keep a controulment of the pells of receipts and exitus, and have certain keys of the treasury, records, &c.

CHAMBERLAIN of London keeps the city-money, which is laid up in the chamber of London: he also presides over the affairs of masters and apprentices, and makes free of the city, &c.

His office lasts only a year, but the custom usually obtains to re-choose the same person, unless charged with any misdemeanor in his office.

Vice-CHAMBERLAIN, called also in antient statutes, under-chamberlain, is an officer in the court next under the lord chamberlain; and who, in his absence, has command and controul of all affairs belonging to that part of the household, called the chamber above stairs.

CHAMBERRY, the capital of the dutchy of Savoy, in Italy, situated ninety miles north-west of Turin, and forty-five south of Geneva; east long. 5° 45', north lat. 45° 40'.

CHAMBRANLE, among builders, an ornament of stone or wood bordering the three sides of doors, windows and chimnies. It is different according to the several

veral orders, and consists of three parts, viz. the top, called the traverse, and the two sides, the ascendants.

The chambrane of an ordinary door is frequently called the door-case, and that of a window, the window-frame: this is generally when it is plain, and without mouldings.

CHAMELEON, or **CHAMÆLEON**. See the article **CHAMÆLEON**.

CHAMFER, or **CHAMFRET**, in architecture, an ornament consisting of half a scotia, being a kind of a small furrow or gutter on a column, called also scapus, *fria*, &c.

CHAMFERING, in architecture, a term used for the cutting the under edge of any thing aslope or level.

CHAMOIS, or **CHAMOIS-GOAT**, in zoology, the name of the rupicapra, a creature of the goat-kind, with erect and short but hooked horns. See plate XL. fig. 4.

It is from the skin of this animal that the chamois or shammy leather is made. See the article **SHAMMY**.

CHAMPAIGN, a province of France, bounded by Picardy, on the north; by Lorraine, on the east; by Burgundy, on the south; and by the isle of France, on the west.

Its capital is Troyes.

CHAMPAIGN, or **CAMPAIGN**. See the article **CAMPAIGN**.

CHAMPAIN, or *point CHAMPAIN*, in heraldry, a mark of dishonour in the coat of arms of him who kills a prisoner of war, after he has cried quarter.

CHAMPART, **CAMPARTUM**, or **CAMPIPARS**, in our old law-books, signifies any part or portion of a large field or ground.

CHAMPARTORS, or **CHAMPERTORS**, among lawyers, such as jointly move pleas or suits, either by their own procurement, or by that of others, and sue them at their own proper costs, in order to have part of the lands, or other matters in dispute.

CHAMPARTY, or **CHAMPERTY**, in law, a contract made with either the plaintiff or defendant in any suit at law, for giving part of the land, debt, &c. sued for, to the party who undertakes the process at his own proper charges, provided he succeeds therein.

This seems to have been an ancient grievance in this nation; for notwithstanding several statutes were made in the reign of Edward I. yet in that of Edward III.

it was enacted, that whereas former statutes provided redress for this evil in the King's-bench only, from henceforth it should be lawful for the justices of the Common-pleas likewise, and justices of assize, to take cognizance in these cases.

CHAMPION; a person who undertakes a combat in the place or quarrel of another; and sometimes the word is used for him who fights in his own cause.

It appears that champions, in the just sense of the word, were persons who fought instead of those that, by custom, were obliged to accept the duel, but had a just excuse for dispensing with it, as being too old, infirm, or being ecclesiastics, and the like. Such causes as could not be decided by the course of common law, were often tried by single combat; and he who had the good fortune to conquer, was always reputed to have justice on his side. Champions who fought for interest only, were held infamous; these hired themselves to the nobility, to fight for them in case of need, and did homage for their pension.

When two champions were chosen to maintain a cause, it was always required that there should be a decree of the judge to authorise the combat: when the judge had pronounced sentence, the accused threw a gage or pledge, originally a glove or gantlet, which being taken up by the accuser, they were both taken into safe custody, till the day of battle appointed by the judge.

Before the champions took the field, their heads were shaved to a kind of crown or round, which was left at the top: then they made an oath that they believed the person who retained them, to be in the right, &c. They always engaged on foot, and with no other weapon than a club and a shield, which weapons were blessed in the field by the priest, with a world of ceremonies; and they always made an offering to the church, that God might assist them in the battle.

The action began with railing, and giving each other ill language; and at the sound of a trumpet, they went to blows. After the number of blows or encounters expressed in the cartel, the judges of the combat threw a rod into the air, to advertise the champions that the combat was ended. If it lasted till night, or ended with equal advantage on both sides, the accused was reputed the victor. If the conquered champion fought in the cause of a woman, and it was a capital offence,

the woman was burnt, and the champion hanged. If it was the champion of a man, and the erime capital, the vanquished was immediately disarmed, led out of the field, and hanged, together with the party whose cause he maintained. If the crime was not capital, he not only made satisfaction, but had his right hand cut off: the accused was to be close confined in prison, till the battle was over.

CHAMPION of the king, a person whose office it is, at the coronation of our kings, to ride armed into Westminster-hall, while the king is at dinner there, and, by the proclamation of a herald, make challenge to this effect, *viz.* "That if any man shall deny the king's title to the crown, he is there ready to defend it in single combat, &c." Which done, the king drinks to him, and sends him a gilt cup, with a cover, full of wine, which the champion drinks, and has the cup for his fee.

CHAMPION, or **CHAMPAIN lands**, are lands not inclosed; or large fields, downs, or places without woods or hedges.

CHAMPLAIN, the name of a lake, situated northwards of the province of New York, in north America; west long. 75°, north lat. 45°.

CHANCE, in a general sense, a term applied to events, not necessarily produced, as the natural effects of any proper fore-known cause.

We certainly mean no more in saying that a thing happened by chance, than that its cause is unknown to us: for chance itself is no natural agent or cause; it is incapable of producing any effect, and is no more than a creature of man's own making; for the things done in the corporeal world, are really done by the parts of the universal matter, acting and suffering, according to the laws of motion established by the author of nature.

Chance is also confounded with fate and destiny.

CHANCE is more particularly used for the probability of an event, and is greater or less, according to the number of chances by which it may happen, compared with the number of chances by which it may fail. Thus, if an event has three chances to happen, and two to fail, the probability of it happening may be estimated $\frac{3}{5}$, and the probability of its failing $\frac{2}{5}$. Therefore if the probability of happening and failing be added together, the sum will always be equal to unity.

If the probabilities of happening and

failing are unequal, there is what is commonly called odds for, or against, the happening or failing, which odds are proportional to the number of chances for happening or failing.

The expectation of obtaining any thing, is estimated by the value of that thing, multiplied by the probability of obtaining it. The risk of losing any thing, is estimated by the value of that thing, multiplied by the probability of losing it. If, from the expectations which the gamesters have upon the whole sum deposited, the particular sums they deposit (that is, their own stakes) be subtracted, there will remain the gain, if the difference is positive; or the loss, if the difference is negative. Again, if from the respective expectations which either gamester has upon the sum deposited by his adversary, the risk of losing what he himself deposits be subtracted, there will likewise remain his gain or loss.

If there is a certain number of chances by which the possession of a sum can be secured, and also a certain number of chances by which it may be lost, that sum may be insured for that part of it, which shall be to the whole, as the number of chances there is to lose it, is to the number of all the chances.

If two events have no dependence on each other, so that p be the number of chances by which the first may happen, and q the number of chances by which it may fail; and likewise, that r be the number of chances by which the second may happen, and s the number of chances by which it may fail: multiply $p + q$ by $r + s$ and the product $p r + q r + p s + q s$ will contain all the chances by which the happening or failing of the events may be varied amongst one another.

From what has been said, it follows, that if a fraction expresses the probability of an event, and another fraction the probability of another event, and these two events are independent, the probability that these two events will happen, will be the product of the two fractions.

For the application of the doctrine of chances to gaming, see **GAMING**.

M. Placete observes, that the antient fairs, a kind of lottery, or chance, was instituted by God himself, there being in the old testament several standing laws and express commands for its use, on certain occasions: hence arose the *sortes* *Sanctorum*,

sanctorum, or method of determining things among the antient christians, by opening some of the sacred books, and pitching on the first verse they cast their eye on, as a sure prognostic of what was to happen. The *sortes homericæ, virgilianæ, prænestinæ*, &c. used by the heathens, were with the same view, and much in the same manner.

Many among the modern divines, hold chance to be conducted in a particular manner by providence, and esteem it an extraordinary way which God uses to declare his will, and a kind of immediate revelation. On this foundation it is, that they condemn all manner of lotteries and gaming, which are also blameable in a political view.

CHANCE-MEDLEY, in law, is the accidental killing of a man, not altogether without the killer's fault, though without any evil intention; and is where one is doing a lawful act, and a person is killed thereby: for, if the act be unlawful, it is felony.

The difference betwixt chance-medley and manslaughter is this: if a person cast a stone, which happens to hit one, and he dies; or if a workman, in throwing down rubbish from a house, after warning to take care, kill a person, it is chance medley and misadventure: but if a person throws stones on the highway, where people usually pass; or a workman throws down rubbish from a house in cities and towns where people are continually passing; or if a man whips his horse in the street, to make him gallop, and the horse runs over a child and kills it, it is manslaughter: but if another whips the horse, it is manslaughter in him, and chance-medley in the rider. In chance-medley the offender forfeits his goods, but has a pardon of course.

CHANCEL, a particular part of the fabric of a christian church; or that part of the choir between the altar and the balustrade that incloses it, where the minister is placed at the celebration of the communion.

CHANCEL is also the rector's freehold and part of his glebe, and therefore he is obliged to repair it; but where the rectory is impropriate, the impropriator must do it.

CHANCELLOR, an officer supposed originally to have been a notary or scribe under the emperors, and named *cancellarius*, because he sat behind a lattice,

called in latin *cancellus*, to avoid being crowded by the people.

According to a late treatise, the chancellor originally presided over a political college of secretaries, for the writing of treaties, and other public business; and the court of equity, under the old constitution, was held before the king and his council, in the palace, where one supreme court for business of every kind was kept. At first the chancellor became a judge, to hear and determine petitions to the king, which were preferred to him; and in the end, as business increased, the people addressed their suit to the chancellor, and not to the king; and thus the chancellor's equitable power, by degrees, commenced by prescription.

Lord high CHANCELLOR of Great-Britain, or *lord keeper of the great seal*, is the highest honour of the long robe, being made so *per traditionem magni sigilli, per dominum regem*, and by taking the oaths: he is the first person of the realm next after the king, and princes of the blood, in all civil affairs; and is the chief administrator of justice, next the sovereign, being the judge of the court of chancery. All other justices are tied to the strict rules of the law in their judgment: but the chancellor is invested with the king's absolute power, to moderate the written law, governing his judgment purely by the law of nature and conscience, and ordering all things according to equity and justice. In this respect, Stamford says, the chancellor has two powers, one absolute, the other ordinary; meaning, that although by his ordinary power, in some cases, he must observe the forms of proceedings, as other inferior judges; yet in his absolute power, he is not limited by the law, but by conscience and equity.

The lord chancellor not only keeps the king's great seal; but also all patents, commissions, warrants, &c. from the king, are, before they are signed, perused by him: he has the disposition of all ecclesiastical benefices in the gift of the crown under 20*l.* a year, in the king's books; and he is speaker of the house of lords. See the article **PARLIAMENT**.

CHANCELLOR of a cathedral, an officer that hears lessons and lectures read in the church; either by himself or his vicar; to correct and set right the reader when he reads amiss; to inspect schools; to hear causes; apply the seal, write and dispatch the letters of the chapter; keep

the books; take care that there be frequent preachings both in the church and out of it; and assign the office of preaching to whom he pleases.

CHANCELLOR of a diocese, a lay officer under a bishop, who is judge of his court. See the article **BISHOP'S COURT**.

CHANCELLOR of the dutchy of Lancaster, an officer appointed chiefly to determine controversies between the king and his tenants of the dutchy land, and otherwise to direct all the king's affairs belonging to that court. See the article **DUTCHY COURT**.

CHANCELLOR of the exchequer, an officer who presides in that court, and takes care of the interest of the crown.

He is always in commission with the lord treasurer, for the letting of crown-lands, &c. and has power, with others, to compound for forfeitures of lands, upon penal statutes: he has also great authority in managing the royal revenues, and in matters relating to the first fruits.

CHANCELLOR of the order of the garter, and other military orders, is an officer who seals the commissions and mandates of the chapter and assembly of the knights, keeps the register of their proceedings, and delivers acts thereof under the seal of their order.

CHANCELLOR of an university, is he who seals the diplomas, or letters of degrees, provision, &c. given in the university. The chancellor of Oxford is usually one of the prime nobility, chosen by the students themselves in convocation. He is their chief magistrate; his office is *durante vita*, to govern the university, preserve and defend its rights and privileges, convoke assemblies, and do justice among the members under his jurisdiction.

Under the chancellor is the vice-chancellor who is chosen annually, being nominated by the chancellor, and elected by the university in convocation: he is always the head of some college, and in holy orders. His proper office is to execute the chancellor's power, to govern the university according to her statutes, to see that officers and students do their duty, that courts be duly called, &c. When he enters upon his office, he chooses four pro-vice-chancellors out of the heads of the colleges, to execute his power in his absence.

The chancellor of Cambridge is also usually one of the prime nobility, and in most respects the same as that in Oxford, only he does not hold his office *durante*

vita, but may be elected every three years. Under the chancellor there is a commissary, who holds a court of record for all privileged persons and scholars under the degree of master of arts, where all causes are tried and determined by the civil and statute law, and by the custom of the university.

The vice chancellor of Cambridge is chosen annually, by the senate, out of two persons nominated by the heads of the several colleges and halls.

CHANCERY, the grand court of equity and conscience, instituted to moderate the rigour of the other courts that are bound to the strict letter of the law.

The jurisdiction of this court is of two kinds, ordinary or legal, and extraordinary or absolute. The ordinary jurisdiction is that wherein the lord chancellor, who is judge of this court, in his proceedings and judgment, is bound to observe the order and method of the common law; in such cases the proceedings, which were formerly in Latin, but now in English, are filed or enrolled in the petty-bag-office; and the extraordinary, or unlimited power, is that jurisdiction which the court exercises in cases of equity, wherein relief is to be had by bill and answer.

The ordinary court holds plea of recognizances acknowledged in the chancery, writs of *scire facias* for repeal of the king's letters patent, &c. also of all personal actions, by or against any officer of the court, and of several offences and causes by act of parliament; all original writs, commissions of bankrupts, of charitable uses, of ideots, lunacy, &c. are issued hence.

The extraordinary court gives relief for and against infants, notwithstanding their minority; for and against married women, notwithstanding their coverture. All frauds and deceits, for which there is no redress at common law, all breaches of trust, confidences and accidents, as to relieve obligors, mortgagors, &c. against penalties and forfeitures, where the intention was to pay the debt, are here remedied. But in all cases where the plaintiff can have his remedy at law, he ought not to be relieved in chancery; and a thing which may be tried by a jury, is not triable in this court.

The court of chancery will not retain a suit for any thing under ten pounds value, except in cases of charity, nor for

lands, &c. under forty shillings *per ann.* In this court all patents, most sorts of commissions, deeds between parties touching lands and estates, treaties with foreign princes, &c. are sealed and enrolled. Out of it are issued writs to convene the parliament and convocation, proclamations and charters, &c. For the several officers belonging to the court of chancery, see the articles *MASTER of the rolls*, *MASTERS in chancery*, *CLERK &c.*

Apostolic CHANCERY, a court in the church of Rome, belonging to the pope.

The pope's datory and chancery courts were formerly one and the same thing: but the multitude of affairs to be transacted therein, obliged him to divide it into two tribunals, which are so nearly related to one another, that the chancery does no more than dispatch all that has passed through the datory court. See the article *DATORY court*.

The officers belonging to this court, are the regent, prelates, and registers. There are also six masters in chancery, whose business it is to collect the bulls: each of these employments is purchased for six thousand crowns. These are subordinate to the master of the rolls, who keeps the registers of the bulls.

CHANCERE, in surgery. See the articles *SHANKER* and *ULCER*.

CHANDELIER, in fortification, a kind of moveable parapet, consisting of a wooden frame, made of two upright stakes, about six feet high, with cross planks between them; serving to support fascines to cover the pioneers.

The chandeliers differ from blinds only in this, that the former cover the men only before, whereas the latter cover them also above.

They are used in approaches, galleries, and mines, to hinder the workmen from being driven from their stations.

CHANFRIN, in the manege, the fore-part of a horse's head, extending from under the ears along the interval between the eye-brows down to his nose.

CHANGE, in the manege. To change a horse, or change hand, is to turn or bear the horse's head from one hand to the other, from the right to the left, or from the left to the right.

You should never change your horse without pushing him forward upon the turn, and after the turn, push him on straight, in order to a stop.

CHANGE of seed, in husbandry, the sowing a field or spot of ground first with one kind of seed, then another, and then a third kind. See the article *SEED*.

This practice, however universal, and perhaps necessary in the common method of husbandry, is nevertheless superseded or rendered useless by the new method, called horse-hoeing husbandry. See the article *HUSBANDRY*.

CHANGES, in arithmetic, the variations or permutations of any number of things, with regard to their position, order, &c. The method of finding out the number of changes, is by a continual multiplication of all the terms in a series of arithmetical progressionals; whose first term, and common difference, is unity, or 1; and last term the number of things proposed to be varied, *viz.* $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7$, &c. as will appear from what follows:

1st, If the things proposed to be varied are only two, they admit of a double position, as to order of place, and no more.

$$\text{Thus, } \begin{Bmatrix} 1.2 \\ 2.1 \end{Bmatrix} = 2 = 1 \times 2.$$

2d, And if three things are proposed to be varied, they may be changed six several ways, as to their order of places, and no more.

For, beginning with 1, there $\begin{Bmatrix} 1.2.3 \\ 1.3.2 \end{Bmatrix}$
will be ————
Next, beginning with 2, there $\begin{Bmatrix} 2.1.3 \\ 2.3.1 \end{Bmatrix}$
will be ————
Again, beginning with 3, it $\begin{Bmatrix} 3.1.2 \\ 3.2.1 \end{Bmatrix}$
will be ————

Which in all make 6 or 3 times 2, *viz.* $1 \times 2 \times 3 = 6$.

3d, Suppose 4 things were supposed to be varied, then they admit of 24 several changes, as to their order of different places.

For, beginning the order $\begin{Bmatrix} 1.2.3.4 \\ 1.2.4.3 \\ 1.3.2.4 \\ 1.3.4.2 \\ 1.4.2.3 \\ 1.4.3.2 \end{Bmatrix}$
with 1, it will be ————
Here are 6 different changes.

And for the same reason there will be 6 different changes when 2 begins the order, and as many when 3 and 4 begin the order; which in all is $24 = 1 \times 2 \times 3 \times 4$. And by this method of proceeding it may be made evident that 5 things admit of 120 several variations or changes; and 6 things of 720, &c. as in this following table:

The

| The number of things proposed to be varied. | The manner how their several variations are produced. | The different change or variations every one of the proposed numbers can admit of. |
|---|---|--|
| 1 | 1 X 1 | = 1 |
| 2 | 1 X 2 | = 2 |
| 3 | 2 X 3 | = 6 |
| 4 | 6 X 4 | = 24 |
| 5 | 24 X 5 | = 120 |
| 6 | 120 X 6 | = 720 |
| 7 | 720 X 7 | = 5040 |
| 8 | 5040 X 8 | = 40320 |
| 9 | 40320 X 9 | = 362880 |
| 10 | 362880 X 10 | = 3628800 |
| 11 | 3628800 X 11 | = 39916800 |
| 12 | 39916800 X 12 | = 479001600 |

They may be thus continued on to any assigned number. Suppose to 24, the number of letters in the alphabet, which will admit of 620448401733239439360000 several variations.

CHANGES of quantities, in algebra, the same with what is otherwise called combination. See the article COMBINATION.

CHANGE, or **EXCHANGE**, in matters of commerce. See the article EXCHANGE.

CHANNEL, in architecture, that part of the ionic capital which is under the abacus, and lies open upon the echinus or eggs, which has the centers or turnings on every side to make the volutes.

CHANNEL of the *larmier*, the hollow soffit of a cornice which makes the pendant mouchette. See the article LARMIER.

CHANNEL of the *volute*, in the ionic capital, the face of the circumvolution inclosed by a fillet.

CHANNEL, in geography, an arm of the sea, or a narrow sea between two continents, or between a continent and an island. Such are the british channel, St. George's channel, the channel of Constantinople, &c.

CHANNEL of a river, the bed of a river. See the article RIVER.

CHANNEL of the mouth of a horse, that concavity in the middle of the lower jaw, appointed for a place to the tongue; which being bounded on each side by the bars, terminates in the grinders. It should be large enough not to be pressed with the bit mouth.

CHANNEL, in anatomy. See the article CANAL.

CHANNELINGS, in architecture. See the article FLUTES.

CHANT, *cantus*, a term particularly used for vocal church music.

In ecclesiastical history we find mention made of divers kinds of chants, as, 1. The ambrosian, established by St Ambrose. See the article AMBROSIAN OFFICE.

2. The gregorian chant, called also the roman chant; which is still retained in churches under the name of plain song; for in this, the choir and people sing in union.

CHANTLATE, in building, a piece of wood fastened near the ends of the rafters; and projecting beyond the wall to support two or three rows of tiles; so placed as to prevent the rain-water from trickling down the sides of the walls.

CHANTOR, a singer in the choir of a cathedral. The word is almost grown obsolete, chorister or singing-man being commonly used instead of it.

All great chapters have chantors and chaplains to assist the canons, and officiate in their absence.

CHANTOR is used by way of excellence for the præcentor or master of the choir, which is one of the first dignities of the chapter. At St. David's in Wales, where there is no dean, he is next in dignity to the bishop. The antients called the chantor *primicerius cantorum*. To him belonged the direction of the deacons, and other inferior officers.

Chantors in the temple of Jerusalem, were a number of levites employed in singing the praises of God, and playing upon instruments before his altar. They had no habits distinct from the rest of the people; yet in the ceremony of removing the ark to Solomon's temple, the chantors appeared dressed in tunics of byffus or fine linen. 2 Chron. v. 12.

CHANTRY, or **CHAUNTRY**, a church

or chappel, endowed with lands, &c. for the maintenance of one or more priests to say mass for the souls of the donors.

Hence,

CHANTRY RENTS, are rents still paid to the crown by the purchasers of those lands.

CHAOLGY, denotes the history or description of the chaos.

It is most probable that Moses was the first chaologist, and that the greek and latin philosophers extracted their fabulous representation of the chaos, from the true history of the creation of the world in the first book of Genesis. Orpheus and Hesiod among the Greeks, and Ovid among the Latins, have given most beautiful descriptions of the chaos; the last mentioned coincides pretty nearly with the account given by Moses.

We have likewise a chaology by Dr. Burnet, in his theory of the earth. See the next article.

CHAOS, that confusion in which matter lay when newly produced out of nothing at the beginning of the world, before God, by his almighty word, had put it into the order and condition wherein it was after the six days creation.

The antient poets, and Ovid in particular, represent the chaos thus: that there was neither sun to make any day, nor moon to enlighten the night; that the earth was not yet hung in the circumambient air, nor the sea bounded by any shore; but that earth, air, and water, were one undigested mass; consequently, that the earth was not hardened to its proper element, the water was unnavigable, the air gross and not enlightened, and, in short, there was nothing in the universe that had put on its proper form.

All the antient sophists, sages, &c. hold that chaos was the first principle; the poets make him a god, who was the father of all the other gods. Among the moderns, Dr. Burnet represents the chaos, out of which the world was framed, to be at first intire, undivided, and universally rude and deformed; then shews how it came divided into its respective regions, and observes, that, excepting Aristotle, and a few others, who asserted that the world was always, from eternity, of the same form and structure as at present, it has been a prevailing opinion in all ages, that what we call the terrestrial globe, was originally an undigested mass of heterogeneous matter called chaos, and no more than the rudiments and ma-

terials of the present world. According to Mr. Whiston, the antient chaos, or origin of our earth, was the atmosphere of a comet; so that every planet with him is a comet, formed into a lasting condition; and a comet is a chaos or planet, unformed in its primeval state.

CHAOS, in the old italic version of Luke, cap. xvi. v. 26. is the space between heaven and hell, which the evangelist calls *χάσμα*, a gulph or abyss.

CHAP, among zoologists, denotes either of the mandibles of a bird's beak, which are distinguished by the epithets *upper* and *lower*. See the article *БЕЛК*.

CHAPE, among scabbard-makers, denotes the metalline plate fixed on the end of a scabbard, to prevent the point of the sword from piercing through it.

CHAPEAU, in heraldry, an antient cap of dignity worn by dukes, being scarlet-coloured velvet on the outside, and lined with a fur.

It is frequently borne above an helmet instead of a wreath, under gentlemen's crests.

CHAPEL, or **CHAPPEL**, a place of divine worship, served by an incumbent under the denomination of a chaplain.

In England there are several sorts, 1. Parochial chapels, which, differing from parish churches only in the name, are generally small, as the inhabitants within the district are few. If there be a presentation *ad ecclesiam* instead of *ad capellam*, and an admission and institution upon it, it is no longer a chapel, but a church.

2. Chapels which adjoin to and are part of the church: such were formerly built by honourable persons, as burying places for themselves and their families. 3. Chapels of ease, built in very large parishes for the convenience of such as cannot repair to the parish church. These are served by inferior curates provided at the charge of the rector, and consequently removeable at his pleasure. Chapels of ease, however, may be parochial, and have a right to sacraments and burials, and to a distinct minister by custom, tho' subject in some respects to the mother-church. In some places they are endowed with lands or tythes, and in other places supported by voluntary contributions. 4. Free chapels, such as were founded by the kings of England, free from all episcopal jurisdiction, and to be visited only by the founder and his successors: the visitation is made by the lord

lord chancellor. The king likewise may license any subject to build and endow a chapel, and, by letters patent, exempt it from the visitation of the ordinary. 5. Chapels in universities belonging to particular colleges, which, tho' consecrated, and though sacraments are administered there, are not liable to the visitation of the bishop. 6. Domestic chapels, built by gentlemen for the private service of God in their own families. These may be erected without the leave of the bishop, and need not be consecrated, tho' they were antiently: they are not subject to the visitation of the ordinary.

CHAPEL is also a name given to a printer's work-house, in which sense they say, the laws of the chapel, the secrets of the chapel.

Knights of the CHAPEL, called also poor knights of Windsor, were instituted by Henry VIII. in his testament. Their number was at first thirteen, but has been since augmented to twenty-six. They assist in the funeral services of the kings of England: they are subject to the office of the canons of Windsor, and live on pensions assigned them by the order of the garter. They bear a blue or red cloak, with the arms of St. George on the left shoulder.

CHAPELET, in the manege, a couple of stirrup-leathers, mounted each of them with a stirrup, and joined at top in a sort of leather buckle, called the head of the chapellet, by which they are made fast to the pommel of the saddle, after being adjusted to the rider's length and bore. They are used both to avoid the trouble of taking up or letting down the stirrups, every time that the gentleman mounts on a different horse and saddle, and to supply the place of the academy saddles, which have no stirrups to them.

CHAPELRY, the precinct belonging to a chapel, in contradistinction from a parish, or that belonging to a church. See the article **PARISH**.

CHAPERON, a covering for the head, formerly worn both by men and women. Hence it became the name of those little shields containing death's heads, and other funeral devices, placed upon the foreheads of horses that drew hearses at pompous funerals. The chaperon is now the badge of a doctor or licentiate in divinity, law, or physic, in France, and worn by them on the left arm, being of the same form with that which in antient days was worn on the head.

CHAPERON is likewise the name that distinguished two factions in France. The first arose in the reign of king John in 1358, and the second under Charles VI. in 1413.

CHAPERON of a bit mouth, signifies the end of the bit that joins to the branch just by the banquet. In scatch mouths, the chaperon is round, in others it is oval.

CHAPETONS, *chapetones*, a name given by the Spaniards to the European inhabitants of America, in contradistinction from the creols, or those born there.

CHAPITERS, in architecture, the same with capitals. See the article **CAPITAL**.

CHAPITERS, in law, formerly signified a summary of such matters as were inquired of, or presented before justices in eyre, justices of assize or of the peace, in their sessions.

Chapters, at this time, denote such articles as are delivered by the mouth of the justice in his charge to the inquest. Bracton and Breton say, that they were after an exhortation from the justices, first read in open court, and then delivered in writing to the grand inquest, who were to answer upon oath to all the particular articles. In some courts-leet in several parts of England, it is usual for the stewards to deliver their charge in writing to the juries sworn to inquire of offences.

CHAPLAIN, an ecclesiastic who officiates in a chapel. See the article **CHAPEL**.

The king of Great-Britain hath forty-eight chaplains in ordinary, usually eminent doctors in divinity, who wait four each month, preach in the chapel, read the service to the family, and to the king in his private oratory, and say grace in the absence of the clerk of the closet. Besides, there are twenty-four chaplains at Whitehall, fellows of Oxford or Cambridge, who preach in their turns, and are allowed thirty pounds *per annum* each. According to a statute of Hen. VIII. the persons vested with a power of retaining chaplains, together with the number each is allowed to qualify, is as follows: An archbishop, eight; a duke or bishop, six; marquis or earl, five; viscount, four; baron, knight of the garter, or lord chancellor, three; a dutches, marchioness, countess, baroness, the treasurer and comptroller of the king's house, clerk of the closet, the king's secretary, dean of the chapel, almoner and master of the rolls, each of them two; chief justice of the king's bench, and warden

of the cinque ports, each one. All these chaplains may purchase a licence or dispensation, and take two benefices with cure of souls. A chaplain must be retained by letters testimonial under hand and seal; for it is not sufficient that he serve as chaplain in the family.

CHAPLAINS of the pope, are the auditors or judges of causes in the sacred palace. They were originally as many as the pope pleased to summon, but Sixtus IV. reduced their number to twelve. It is from their decrees that the body of decretals is formed.

CHAPLAIN of the order of Malta, otherwise called diaco, and clerk conventual, the second class of the order of Malta. The knights make the first rank.

CHAPLET, a string of beads used by the roman catholics to count the number of their prayers. The invention of it is ascribed to Peter the hermit, who probably learned it of the Turks, as they owe it to the East-Indians.

Chaplets are sometimes called pater-nosters, and are made of coral, of diamonds, of wood, &c. The common chaplet contains fifty ave-marias, and five pater-nosters. There is also a chaplet of our Saviour, consisting of thirty-three beads, in honour of his thirty-three years living on earth, instituted by father Michael the Camaldulian. Dandini observes, that the mahometan chaplets differ from those of the roman catholics, in that they are all of the same bigness, and have not that distinction into decads, though they consist of sixty beads. The devotees of the sect of Fo in China, always wear a chaplet about their necks, and round their arms, consisting of 100 middle-sized beads, and eight considerably larger; and all the while they are tumbling over these beads, they repeat *na-mo-o mi-to-fo*. See **ROSARY**.

CHAPLET, in architecture, a small ornament carved into round beads, pearls, olives, and pater-nosters, as is frequently done in baguettes. See **BAGUETTE**.

CHAPPAR, a courier of the king of Persia, who carries dispatches between the court and the provinces. When he sets out, the master of the horse furnishes him with a single horse, and when that is weary, he dismounts the first horseman he meets, and takes his horse. There is no pardon for a traveller that should refuse to let a chappar have his horse, nor for any other that should deny him the best horse of his stable.

CHAPPE', in heraldry, the dividing and escutcheon by lines drawn from the center of the upper edge to the angles below, into three parts, the sections on the sides being of a different metal or colour from the rest.

CHAPPEL, or **CHAPEL**. See **CHAPEL**.

CHAPPEL in the FRITH, a market-town of Derbyshire, about twenty-six miles north-west of Derby: west longitude 1° 30', north latitude 53° 22'.

CHAPTER, *capitulum*, in ecclesiastical policy, a society or community of ecclesiastics belonging to a cathedral or collegiate church.

It was in the eighth century that the body of canons began to be called a chapter. The chapter of the canons of a cathedral, were a standing council to the bishop, and during the vacancy of the see, had the jurisdiction of the diocese. In the earlier ages, the bishop was head of the chapter: afterwards abbots and other dignitaries, as deans, provosts, treasurers, &c. were preferred to this distinction. The deans and chapters had the privilege of choosing the bishops in England, but Henry VIII. got this power vested in the crown: and as the same prince expelled the monks from the cathedrals, and placed secular canons in their room, those he thus regulated were called deans and chapters of the new foundation: such as Canterbury, Winchester, Ely, Carlisle, &c.

CHAPTER is also applied to assemblies held by religious and military orders for regulating their affairs, and also to the hall where such assemblies are convoked. In monasteries, the chapter is usually in the middle of the cloisters.

CHAPTER, in matters of literature, a division in a book, for keeping the subject treated of more clear and distinct. St. Augustine compares them to inns, inasmuch as they refresh the reader as these the traveller.

The three CHAPTERS, a famous phrase in ecclesiastical history, signifying a volume by Theodoret, an adherent of Nestorius, against St. Cyril. These chapters consist of a letter of Ibas, priest of Edessa, to Maris bishop of Persia; of extracts from the works of Diodorus of Tarsus, and Theodore of Mopsuestia, wherein the same doctrines were taught that were contended for by Nestorius; and of two pieces of Theodoret, the one against the council of Ephesus, the other against the anathemas of St. Cyril. The three chapters

ters have been condemned by various councils, and many popes.

CHAPTREL, in architecture, the same with impost. See the article **IMPOST**.

CHAR, or **CHARRE**, in ichthyology. See the article **CHARRE**.

CHARA, in botany, a genus of plants belonging to the class of the cryptogamia-algarum, without either flower-petals, or pericarpium, having a single ovato-oblong seed. Linnæus distinguishes four species of the chara, but there are no medicinal virtues ascribed to either of them.

CARABON, a sea-port town on the northern coast of the island of Java, in the indian ocean, situated 130 miles east of Batavia: east long. 108°, south lat. 6°.

CHARACTER, χαρακτήρ, in a general sense, denotes any mark whatever, serving to represent either things or ideas: thus letters are characters, types, or marks of certain sounds; words, of ideas, &c. See the article **LETTER**, &c.

Characters are of infinite advantage in almost all sciences, for conveying, in the most concise and expressive manner, an author's meaning: however, such a multiplicity of them, as we find used by different nations, must be allowed to be a very considerable obstacle to the improvement of knowledge; several authors have therefore attempted to establish characters that should be universal, and which each nation might read in their own language, and, consequently, which should be real, not nominal, or arbitrary, but expressive of things themselves; thus, the universal character for a horse, would be read by an Englishman *horse*, by a Frenchman *cheval*, by the Latins *equus*, by the Greeks *ἵππος*, &c.

The first who made any attempts for an universal character in Europe, were bishop Wilkins and Dalgarno: Mr. Leibnitz also turned his thoughts that way; and Mr. Lodwic, in the Philosophical Transactions, gives a plan of an universal character, which was to contain an enumeration of all such single sounds as are used in any language. The advantages he proposed to derive from this character were, that people would be enabled to pronounce truly and readily any language that should be pronounced in their hearing; and lastly, that this character would serve as a standard to perpetuate the bounds of every language whatsoever.

In the Journal Litteraire of 1720, there is a project for an universal character, by means of the common arabic or numeral figures: the combinations of these nine, says the author, is sufficient to express distinctly, an incredible quantity of numbers, much more than we shall need terms to signify our actions, goods, evils, duties, passions, &c. and the arabic figures having already all the universality required, the trouble is already saved of framing and learning any new character. But here the difficulty is not so great to invent the most simple, easy, and convenient characters, as to engage different nations to use these characters.

Literal characters may be divided, with respect to the nations among whom they have been invented, into greek characters, roman characters, hebrew characters, &c. See the article **ALPHABET**.

The latin character, now used through all Europe, was formed from the greek, as the greek was from the phœnician; and the phœnician, as well as the chaldee, syriac, and arabic characters, were formed from the antient hebrew, which subsisted till the babylonish captivity; for after that event, the character of the Assyrians, which is the square hebrew now in use, prevailed, the antient being only found on some hebrew medals, commonly called samaritan medals. It was in 1091 that the gothic characters, invented by Ulphilas, were abolished, and the latin ones established in their room. See the article **LETTER**.

Medallists observe, that the greek character, consisting only of majuscule letters, has preserved its uniformity on all medals, as low as the time of Gallienus; from that time it appears somewhat weaker and rounder: from the time of Constantine to Michael we find only latin characters; and after Michael the greek characters recommence; but from that time they begin to alter with the language, which was a mixture of greek and latin. The latin medals preserve both their character and language as low as the translation of the seat of the empire to Constantinople: towards the time of Decius the character began to lose its roundness and beauty; some time after it retrieved, and subsisted tolerably till the time of Justin, when it degenerated gradually into the gothic. The rounder, then, and better formed a character is, upon

upon a medal, the fairer pretence it has to antiquity.

CHARACTER is also used, in several of the arts, for a symbol, contrived for the more concise and immediate conveyance of the knowledge of things. We shall here subjoin the principal of them.

CHARACTERS *used in algebra and arithmetic.*

a, b, c, d , &c. the first letters of the alphabet, are the characters of given quantities; and x, y, z , &c. the last letters, are the characters of quantities sought. See the article ALGEBRA.

m, n, r, s, t , &c. are characters of indeterminate exponents both of ratios and of powers: thus, x^m, y^n, z^r , &c. denote undetermined powers of different kinds; mx, ny, rz , different multiples or submultiples of the quantities x, y, z , according as m, n, r , are either whole numbers or fractions.

$+$ is the sign of the real existence of the quantity it stands before, and is called an affirmative or positive sign. It is also the mark of addition, and is read *plus*, or more; thus, $a+b$, or $3+5$, implies a is added to b , or 3 added to 5.

$-$ before a single quantity is the sign of negation or negative existence, shewing the quantity to which it is prefixed to be less than nothing. But between quantities it is the sign of subtraction, and is read *minus*, or less; thus, $a-b$, or $8-4$, implies b subtracted from a , or 8 after 4 has been subtracted.

$=$ is the sign of equality, though Des Cartes and some others use this mark \propto ; thus, $a=b$ signifies that a is equal to b . Wolfius, and some others, use the mark \equiv for the identity of ratios.

\times is the sign of multiplication, shewing that the quantities on each side the same are to be multiplied by one another, as $a \times b$ is to be read a multiplied into b ; 4×8 , the product of 4 multiplied into 8. Wolfius and others make the sign of multiplication a dot between the two factors; thus 5.4 signifies the product of 5 and 4. In algebra the sign is commonly omitted, and the two quantities put together; thus bd expresses the product of b and d . When one or both of the factors are compounded of several letters, they are distinguished by a line drawn over them; thus, the sum of $a+b-c$ into d , is wrote $d \times a+b-c$. Leibnitz, Wolfius, and others distinguish the

compound factors by including them in a parenthesis thus $(a+b-c) d$.

\div is the sign of division; thus, $a \div b$ denotes the quantity a to be divided by b . In algebra the quotient is often expressed like a fraction, thus, $\frac{a}{b}$ denotes

the quotient of a divided by b . Wolfius makes the sign of division two dots; thus $12:4$ denotes the quotient of 12 divided by $4=3$. If either the divisor or dividend, or both, be composed of several letters, for example, $a+b \div c$, instead of writing the quotient like a fraction, $\frac{a+b}{c}$, Wolfius includes the compound quantities in a parenthesis, thus $(a+b):c$.

\odot is the character of involution; ω is the character of evolution.

\rhd or \sqsupset are signs of majority; thus, $a \rhd b$ expresses that a is greater than b , \lhd or \sqsubset are signs of minority; and when we would denote that a is less than b , we write $a \lhd b$, or $a \sqsubset b$.

\sim is the character of similitude used by Wolfius, Leibnitz, and others: it is used in other authors for the difference between two quantities while it is unknown which is the greater of the two.

$:$ is the mark of geometrical proportion disjunct, and is usually placed between two pair of equal ratios, as, $3:6::4:8$, shews that 3 is to 6 as 4 is to 8.

$\div\div$ the mark of geometrical proportion continued, implies the ratio to be still carried on without interruption, as 2, 4, 8, 16, 32, $64 \div\div$ are in the same uninterrupted proportion.

$\sqrt{}$ is the character of radicality, and shews, according to the index of the power that is set over it, or after it, that the square, cube, or other root is extracted, or to be extracted; thus, $\sqrt{16}$, or $\sqrt[2]{16}$ or $\sqrt{(2)} 16$, is the square root of 16, $\sqrt[3]{25}$, the cube root of 25, &c. This character sometimes affects several quantities, distinguished by a line drawn over them thus, $\sqrt{b+d}$ denotes the sum of the square roots of b and d . When any term, or terms, of an equation are wanting, they are generally supplied by one or more asterisks: thus in the equation

$$y^2 + py + \frac{1}{2}p^2 + q \} = 0, \text{ the term } \pm py \text{ vanishing, is marked with an asterisk, as } y^2 * - \frac{1}{2}p^2 + q.$$

CHARACTERS *used in astronomy.*

Characters of the planets.

| | | |
|-----------|------------|---------|
| ♄ Saturn | ☉ Sun | ☾ Moon |
| ♃ Jupiter | ♀ Venus | ♁ Earth |
| ♂ Mars | ☿ Mercury. | |

Of the signs.

| | | |
|----------|-----------|---------------|
| ♈ Aries | ♌ Leo | ♐ Sagittarius |
| ♉ Taurus | ♍ Virgo | ♑ Capricornus |
| ♊ Gemini | ♎ Libra | ♒ Aquarius |
| ♋ Cancer | ♏ Scorpio | ♓ Pisces. |

Of the aspects.

| | |
|--------------------|------------------|
| ♌ or S Conjunction | △ Trine |
| SS Semisextile | ♁ Biquintile |
| * Sextile | Vc Quincunx |
| Q Quintile | ♌ Opposition |
| □ Quartile | ♏ Dragon's head |
| Td Tredecile | ♏ Dragon's tail. |

Of time.

A. M. *ante meridiem*, before the sun comes upon the meridian.

O. or N. noon.

P. M. *post meridiem*, when the sun is past the meridian.CHARACTERS *in commerce.*

| | |
|--------------------------|-------------------------|
| D° ditto, the same | q ^s quarters |
| N° numero, or number | S or s shillings |
| ber | d pence or deniers |
| F° folio, or page | lb pound weight |
| R° resto | per, or by, as |
| V° vero | ann. by the year, |
| £. or l. pounds sterling | ℥ cent. |
| C or ① hundred | Rx rixdollar |
| weight, or 112 pounds | Dd ducat |
| | P. S. postscript, |
| | ℥c. |

CHARACTERS *in chemistry.*

| | |
|---------------------------------|---------------------|
| ♁ antimony | ♃ jupiter, tin |
| ♁ aqua fortis | ♄ saturn, lead |
| ♁ aqua regia | ☿ mercury |
| MB balneum mariae | ☿ sublimate |
| ☿ calx viva | ☿ precipitate |
| ☉ caput mortuum | ① nitre |
| ♀ venus, copper | * sal armoniac |
| ⊖ common salt | ① vitriol |
| σ distillation | ♁ & sulphur |
| ☉ sol, gold | ☿ spirit of wine |
| CC hart's horn | ☿ or S.V. R. spirit |
| CCC hart's horn | of wine rectified |
| calced | ☿ luna, silver |
| ♂ mars, iron | ☿ tartar |
| f. f. f. stratum super stratum. | aaa amalgamate. |

There are many more characters in chemistry, but these are the most usual.

CHARACTERS *in geometry and trigonometry.*

| | |
|------------------------------|-------------|
| The character of parallelism | □ square |
| △ triangle | □ rectangle |
| | ○ circle |

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| ∠ equiangular, or similar | ∠ an angle |
| ≡ equilateral | ⊥ right angle |
| | ⊥ perpendicular |

° denotes a degree; thus 45°, implies 45 degrees. ' a minute; thus, 50', is 50 minutes. ", '"/>, '"/>, denote seconds, thirds, and fourths: and the same characters are used where the progressions are by tens, as it is here by sixties.

CHARACTERS *in grammar, rhetoric, poetry, &c.*

| | |
|------------------------|--|
| () parenthesis | SS. T. D. doctor in divinity |
| [] crotchet | V. D. M. minister of the word of God |
| - hyphen | LL. D. doctor of laws |
| ' apostrophe | J. V. D. doctor of civil and canon law |
| ' emphasis or accent | M. D. doctor in physics |
| breve | A. M. master of arts |
| " dialysis | A. B. bachelor of arts |
| ^ caret and circumflex | F. R. S. fellow of the royal society. |
| " quotation | For the other characters used in grammar, see the articles COMMA, COLON, SEMI-COLON, &c. |
| † † and * references | |
| § section or division | |
| ¶ paragraph | |

CHARACTERS *used in the arithmetic of infinites.*

the character of an infinitesimal or fluxion; thus, x , y , &c. express the fluxions or differentials of the variable x and y ; and two, three, or more dots denote second, third, or higher fluxions. M. Leibnitz, instead of a dot, prefixes the letter d to the variable quantity, in order to avoid the confusion of dots in the differencing of differentials. See the article CALCULUS DIFFERENTIALIS.

CHARACTERS *among the antient lawyers, and in antient inscriptions.*

| | |
|--|---------------------------------------|
| § paragraphs | P. P. pater patriæ |
| ff digests | C. code |
| Seto senatus consulto | C. C. consules |
| E. extra | T. titulus |
| S. P. Q. R. senatus populusque romanus | P. P. D. D. propria pecunia dedicavit |
| | D. D. M. dono dedit monumentum |

CHARACTERS *in medicine and pharmacy.*

| | |
|----------------------------|-----------------------------|
| R recipe | ℥ or ss, half of any thing |
| ℥℥℥. or ana, of each alike | cong. congius, a gallon |
| ℔ a pound or a pint | coch. cochleare, a spoonful |
| ℥ an ounce | M. manipulus, a handful |
| ʒ a drachm | |
| ʒ a scruple | |
| gr. grains | |

4 B

P.

P. a pugil

P. Æ. equal quantities

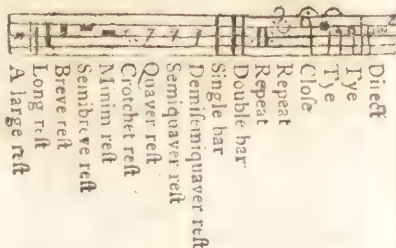
S. A. according to art

q. s. a sufficient quantity






q. pl. as much as you please

P. P. pulvis patrum, the jesuit's baik.

Characters of the rests or pauses of time.



CHARACTERS used in music, and of musical notes, with their proportions, are as follow.

| | | | | |
|--|----------------|---|----------------|----------------|
|  | character of a | P | minim | $\frac{1}{2}$ |
|  | large | 8 | crotchet | $\frac{1}{4}$ |
|  | a long | 4 | quaver | $\frac{1}{8}$ |
|  | a breve | 2 | semiquaver | $\frac{1}{16}$ |
|  | o a semibreve | 1 | demisemiquaver | $\frac{1}{32}$ |

♯ character of a sharp note: this character at the beginning of a line, or space, denotes that all the notes in that line are to be taken a semitone higher, than in the natural series; and the same affects all the octaves above or below, though not marked: but when prefixed to any particular note, it shews that note alone to be taken a semitone higher than it would be without such character.

b or b, character of a flat note: this is the contrary to the other above, that is, a semitone lower.

♮ character of a natural note: when in a line or series of artificial notes, marked at the beginning b or ♯, the natural note happens to be required, it is denoted by this character.

C character of the treble cliff.

F character of the mean cliff.

G: bass cliff.

$\frac{2}{2}$, or $\frac{3}{4}$, or $\frac{4}{8}$, characters of common duple time; signifying the measure of two crotchets to be equal to two notes, of which four make a semibreve.

C ♯ P characters that distinguish the movements of common time, the first implying slow, the second quick, and the third very quick.

$\frac{1}{2}$, $\frac{3}{4}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{8}$, characters of simple triple time, the measure of which is equal to three semibreves, or to three minims.

$\frac{6}{8}$, or $\frac{9}{8}$, or $\frac{12}{8}$, characters of mixed triple time, where the measure is equal to six crotchets or six quavers.

$\frac{4}{4}$, or $\frac{8}{8}$, or $\frac{16}{16}$, or $\frac{2}{1}$, or $\frac{3}{2}$, characters of compound triple time.

$\frac{12}{4}$, $\frac{12}{8}$, $\frac{12}{16}$, or $\frac{1}{2}$, or $\frac{1}{4}$, characters of that species of triple time called the measure of twelve times. See the article TRIPLE.

Numeral CHARACTERS used to express numbers, are either letters or figures. The arabic character, called also the common one, because it is used almost throughout Europe in all sorts of calculations, consists of these ten digits, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

The roman numeral character consists of seven majuscule letters of the roman alphabet, viz. I, V, X, L, C, D, M. The I denotes one, V five, X ten, L fifty, C a hundred, D five hundred, and M a thousand.

The I repeated twice makes two, II; thrice, three, III; four is expressed thus IV, as I before V or X takes an unit from the number expressed by these letters. To express six an I is added to V, VI; for seven, two, VII; and for eight, three, VIII: nine is expressed by an I before X, thus IX.

The same remark may be made of the X before L or C, except that the diminution is by tens; thus, XL denotes forty, XC ninety, and LX sixty. The C before D or M diminishes each by a hundred.

The number five hundred is sometimes expressed by an I before a C inverted, thus, IC; and instead of M, which signifies a thousand, an I is sometimes used between two C's, the one direct, and the other inverted, thus CIC. The addition of C and I before or after, raises CIC by tens, thus, CCIC, expresses ten thousand, CCCIC, a hundred thousand. The Romans also expressed any number of thousands by a line drawn over any numeral less than a thousand; thus, V denotes five thousand, LX sixty thousand, so likewise M is one million, MM is two millions, &c.

Some modern writers have admitted variations in this method of notation; thus we find IIX expressing eight, IICIX eighty.

eighty-nine, Δ or ∇ denoting ICD , and ∞ or λ standing for CIC ; whence Ψ \times ten thousand, $\Psi\Psi$ twenty thousand.

The Greeks had three ways of expressing numbers: first, every letter according to its place in the alphabet, denoted a number, from α , one, to ω , twenty-four. 2. The alphabet was divided into eight units, α one, β two, γ three, &c. into eight tens, ι ten, κ twenty, λ thirty, &c. and eight hundreds, ρ one hundred, σ two hundred, τ three hundred, &c. 3. I stood for one, II ($\omega\epsilon\iota\tau$) five, Δ ($\delta\epsilon\iota\alpha$) ten, H ($\text{H}\alpha\lambda\omicron\nu$) a hundred, X ($\chi\iota\lambda\iota\alpha$) a thousand, M ($\mu\upsilon\epsilon\iota\alpha$) ten thousand; and when the letter II inclosed any of these, except I , it shewed the inclosed letter to be five times its value; as AI fifty, HI five hundred, XI five thousand, MI fifty thousand.

The hebrew numerals consisted of their alphabet divided into nine units; thus, \aleph one, \beth two, &c. nine tens; thus, ι ten, \beth twenty, &c. nine hundreds; thus, κ one hundred, \beth two hundred, &c. and \beth five hundred, \daleth six hundred, \beth seven hundred, \beth eight hundred, \beth nine hundred. They expressed thousands by the word \aleph , with the other numerals prefixed to signify the number of thousands: thus, $\aleph\aleph$ two thousand, $\aleph\aleph\aleph$ three thousand, &c.

French CHARACTER, used in the chamber of accounts, and by persons concerned in the management of the revenue, is, properly speaking, nothing else than the roman numerals, in letters that are not masculine: thus, instead of expressing fifty-six by LVI , they denote it by smaller characters lvj .

CHARACTER, in natural history. See the article **GENUS**.

CHARACTERS, among printers. See the articles **LETTER** and **CORRECTION**.

CHARACTERS upon tomb-stones.

S. V. *Siste viator, i. e.* Stop traveller.

M. S. *Memoriæ sacrum, i. e.* Sacred to the memory.

D. M. *Dis manibus*.

I H S. *Jesus*.

X. P. a character found in the catacombs in Italy, about the meaning of which authors are not agreed. See **CATACOMBS**.

CHARACTER, in epic and dramatic poetry, that which is peculiar in the manners of any person, and distinguishes him from all others.

The poetical character, says Mr. Boscu, is not properly any particular virtue or quality, but a composition of several which are mixed together, in a different degree, according to the necessity of the fable, and the unity of the action: there must be one, however, to reign over all the rest, and this must be found in some degree in every part. This first quality in Achilles is wrath, in Ulysses dissimulation, and in Æneas mildness. But as these characters cannot be alone, they must be accompanied with others to embellish them, as far as they are capable, either by hiding their defects, as in the anger of Achilles, which is palliated by extraordinary valour; or by making them center in some solid virtue, as in Ulysses, whose dissimulation makes a part of his prudence; and in Æneas, whose mildness is employed in a submission to the will of the gods. In the making up of which union, it is to be observed, the poets have joined together such qualities as are by nature the most compatible, valour with anger, piety with mildness, and prudence with dissimulation. The fable required prudence in Ulysses, and piety in Æneas; in this, therefore, the poets were not left to their choice: but Homer might have made Achilles a coward, without abating any thing from the justness of his fable; so that it was the necessity of adorning his character that obliged him to make him valiant; the character, then, of a hero in the epic poem is compounded of three sorts of qualities, the first essential to the fable; the second embellishments of the first; and valour, which sustains the other two, makes the third.

Unity of character is as necessary as the unity of the fable; for this purpose a person should be the same from the beginning to the end; not that he is always to betray the same sentiments or one passion, but that he should never speak nor act inconsistently with his fundamental character. For instance, the weak may sometimes fall into a warmth; and the breast of the passionate be calm; a change, which often introduces in the drama a very affecting variety: but if the natural disposition of the former was to be represented as boisterous, and that of the latter mild and soft, they would both act out of character, and contradict their persons.

True characters are such as we truly and really see in men, or may exist without any contradiction to nature: no man

questions but there have been men as generous and as good as *Æneas*, as passionate and as violent as *Achilles*, as prudent and wise as *Ulysses*, as impious and atheistical as *Mezentius*, and as amorous and passionate as *Dido* : all these characters, therefore, are true, and nothing but just imitations of nature. On the contrary, a character is false, when an author so feigns it, that one can see nothing like it in the order of nature, wherein he designs it shall stand: these characters should be wholly excluded from a poem, because transgressing the bounds of probability and reason, they meet with no belief from the readers. They are fictions of the poet's brain, not imitations of nature; and yet all poetry essentially consists in an imitation of nature.

CHARACTER is also used by divines, especially those of the romish church, for an indelible mark which the sacraments of baptism, confirmation, and ordination leave behind them, in those who receive them.

Dr. Forbes, in *Irenic*. lib. ii. cap. 11. explains the sense of the antients touching the indelible character in a man that is deposed, by which he is distinguished from other laymen: but to make this distinction, it is not necessary, there should be any form impressed, but a transient act, that is long ago past, is sufficient, *viz.* that he was once a person ordained. The character that remains in a deposed person, is not the character of any present office or power, but only some footstep or mark of an honour that is past, and of a power that he once had; by which footstep he is distinguished from other laymen who never were ordained; and may, after a sufficient penance performed, if he be found fit, and the advantage of the church so require, be restored again without a new ordination.

CHARACTERISTIC, in a general sense, a peculiar mark, or character, whereby a person or thing is distinguished from all others.

Grammarians use the term characteristic, in a more limited sense, for the principal letter of a verb, preserved through all its moods, and tenses, derivatives and compounds: such is the letter *w* in the word *brew*.

The characteristic letter is of most use in the formation of greek verbs, as being always the same in the corresponding tenses of the same conjugation, that is, in those formed from the present, future, or pre-

terit. See the articles **VERB**, **MOOD**, **TENSE**, &c.

CHARACTERISTIC of a logarithm, the same with its index or exponent.

CHARACTERISTIC of a curve, in the higher geometry, a rectilinear right-angled triangle, whose hypotenuse makes a part of the curve, not sensibly different from a right line.

It is so called, because curve lines are used to be distinguished hereby.

CHARADRIUS, in ornithology, a genus of birds of the order of the scolopaces, the characters of which are these: the beak is short, of a cylindrical or rounded shape, and obtuse at the extremity; and there are only three toes on each foot, which are connected together.

To this genus belong, 1. The plover variegated with black and yellow. 2. The green plover. 3. The morinellus of authors. 4. The hiaticula, or sea-lark. 5. The labul, or lapland-plover, with a reddish-brown belly, the upper part of the head blackish, and the neck, back, wings, and tail grey, variegated with spots of red.

CHARAG, the tribute which the christians and jews pay to the grand signior.

It is generally a pistole a head, and sometimes four crowns. The christians who come to travel in Turkey, pay it at the first town they arrive at: others begin to pay it at nine or sixteen years old; but women, priests, rabbins, and religious, are exempted.

CHARAX, in ichthyology, the name by which several authors call the cyprinus, with twenty rays in the back-fin, and with the side-line straight.

CHARBON, in the manege, that little black spot or mark which remains after a large spot in the cavity of the corner teeth of a horse: about the seventh or eighth year, when the cavity fills up, the tooth being smooth and equal, it is said to be rased.

CHARCAS, the southern division of Peru, in South America, remarkable for the silver-mines of Potosi.

CHARCOAL, a kind of fuel, consisting of half-burnt wood, much used by artificers of different professions; and that not only as fuel, but for polishing brass or copper plates, &c.

The best charcoal for common uses is that made of oak; but in the manufacture of gunpowder they commonly use charcoal made of alder. See **GUNPOWDER**.

Charcoal, by reason of the humidity of the

the wood being mostly dissipated and exhaled in the fire, wherein it is prepared, makes a strong clear fire without smoke. The Philosophical Transactions give an account of some microscopical observations upon charcoal; which is found to contain a surprizing number of pores, disposed in order, and traversing lengthwise: in a piece, the 18th part of an inch long, Dr. Hook reckoned 150 pores; whence he concludes, that in one of an inch diameter there are not less than 5,724,000 pores, so that there is no piece of charcoal, how long soever, but may be easily blown through. If a piece be broke pretty short, it may be seen through by a microscope. It is to this prodigious number of pores, that the blackness of charcoal is owing; for the rays of light, striking on the charcoal, are received and absorbed in its pores, instead of being reflected; whence the body must of necessity appear black; blackness in a body being no more than want of reflection.

The vapour of charcoal or sea-coal, in a close room, is fatal. It is the more dangerous, because it comes without any ill smell, and steals on by little and little, causing only a faintness, without any manifest strangling.

The effect, no doubt, is wrought by the inspissation of the air; or rather by destroying its elastic power.

CHARDS of *artichoaks*, in gardening, the leaves of fair artichoke-plants, tied and wrapped up in straw all over, but the top, during the autumn and winter; this makes them grow white, and lose some of their bitterness.

CHARDS of *beets*, white beets covered over with dry dung, during the winter season, when they produce large tops, with a downy cotton shoot, which is the true chard to be used in pottages, intermezzes, &c.

CHARENTE, a river of France, which, arising in the Limosin, runs westward by Angouleme and Saintes, falling into the bay of Biscay, opposite to the isle of Oleron.

CHARENTON, the name of two towns in France, the one upon the Marmaude, in the Bourbonnois; the other in the isle of France, near the confluence of the Marne with the Seine, about three miles south-east of Paris: east longitude $2^{\circ} 30'$, and north latitude $48^{\circ} 45'$.

CHARGE, in gunnery, the quantity of gunpowder and ball, wherewith a gun is loaded for execution.

The rule for charging large pieces, in war, are, that the piece be first cleaned or scoured within side; that the proper quantity of powder be next driven in, and rammed down: care however being taken, that the powder, in ramming, be not bruised, because that weakens its effect; that a little quantity of paper, hay, lint, or the like, be rammed over it; and that the ball or shot be intruded.

If the ball be red-hot, a tampion, or trencher of green wood, is to be driven in before it.

The weight of the powder necessary for a charge is commonly in a subduple proportion to that of the ball. See the articles **CANNON, GUN, SHOT, CALIBER, PROJECTILES, &c.**

CHARGE, in heraldry, is applied to the figures represented on the escutcheon, by which the bearers are distinguished from one another; and it is to be observed, that too many charges are not so honourable as fewer.

CHARGE, in the manege, a preparation, or ointment, of the consistence of a thick decoction, applied to the shoulder-plaits, inflammations, and sprains, of horses: the parts affected are rubbed and chafed with this composition, after which they should be covered with sinking paper.

This unguent is made up of honey, oil, grease, turpentine, and sometimes lees of wine, and other matters.

Charges are outward applications to the bodies of horses, &c. and are prepared divers ways, according to the nature of the disease.

CHARGE, or **OVERCHARGE**, in painting, an exaggerated representation of any person, wherein the likeness is preserved, but withal ridiculed. Few painters have the genius to succeed in these charges: the method is, to pick out and heighten something amiss in the face, whether by way of defect or redundancy; thus, if nature has given a man a nose a little larger than ordinary, the painter falls in with her, and makes the nose extravagantly long; and so in other places.

CHARGE of lead denotes a quantity of thirty-six pgs. See the article **FIG.**

CHARGED, in heraldry. A shield carrying some impress or figure, is said to be charged therewith; so also when one bearing, or charge, has another figure added upon it, it is properly said to be charged.

CHARGED CYLINDER, in the art of war, is

is that part of the chace of the gun where the powder and ball are contained.

CHARIENTISM, *χαριεντισμὸς*, in rhetoric, a figure wherein a taunting expression is softened by a jest.

CHARIOT, a half coach, having only a seat behind, with a stool, at most, before. See the articles **COACH** and **CALASH**.

The chariots of the antients, chiefly used in war, were called by the several names *biga*, *triga*, &c. according to the number of horses applied to draw them. By this sort of martial machine may be understood either cart, coach, chariot, chaise, or any other vehicle moving on wheels: these were not only contrived for service, but ornament, being richly embossed with gold and other metals, and likewise adorned with curious hangings. Every chariot carried two men, who were probably the warrior and the charioteer; and we read of several men of note and valour employed in driving the chariot. When the warriors came to encounter in close fight, they alighted out of the chariot, and fought on foot; but when they were weary, which often happened, by reason of their armour, they retired into their chariot, and thence annoyed their enemies with darts and missive weapons. These chariots were made so strong, that they lasted for several generations.

Besides this sort, we find frequent mention of the *currus falcati*, or those chariots armed with hooks, or scythes, with which whole ranks of soldiers were cut off together, if they had not the art of avoiding the danger; these were not only used by the Persians, Syrians, Egyptians, &c. but we find them among our british ancestors. The descriptions which the antients give us of these chariots, is much after the following manner: the beam to which the horses were fastened, was armed with pikes, having iron points to them, which projected forwards; the yokes of the horses had likewise two long points of three cubits; to the axle tree were also fixed bowsprits, armed at the extremities with scythes, which tore every thing they met with to pieces: the driver's seat was a kind of little tower, made of very solid wood, raised breast high; the charioteer was armed all over, and covered with iron. These chariots were sometimes so large as to hold several men, well armed, who fought with darts and arrows.

Triumphal **CHARIOT** was one of the principal ornaments of the roman celebration of a victory. See the article **TRIUMPH**.

The roman triumphal chariot was generally made of ivory, round like a tower, or rather of a cylindrical figure; it was sometimes gilt at the top, and ornamented with crowns; and, to represent a victory more naturally, they used to stain it with blood. It was usually drawn by four white horses, but oftentimes by lions, elephants, tigers, bears, leopards, dogs, &c.

Sailing **CHARIOT**. Maurice of Nassau, prince of Orange, who made a considerable figure in Holland against the Spaniards, had a chariot, which, instead of horses, was driven by the wind.

CHARISIA, in heathen antiquity, a nocturnal festival, kept in honour of the graces, and consisting chiefly of dancing; only that sweet-meats, called likewise *charisia*, were distributed among those present.

CHARISTIA, a festival of the antient Romans, celebrated in the month of February, wherein the relations by blood and marriage met, in order to preserve a good correspondence; and that, if there happened to be any difference among them, it might be the more easily accommodated, by the good humour and mirth of the entertainment.

CHARISTICARY, among the Greeks, a kind of donatory, or commendatory, who enjoyed the revenue of an hospital, or monastery, without being accountable to any person. See **COMMENDAM** and **ABBOT**.

CHARITATIVE *aid or subsidy*, in the canon law, a moderate allowance which a council grants a bishop, upon any urgent occasion, as when his revenues will not bear his expences to a council, &c.

CHARITY, among divines, one of the three grand theological virtues, consisting in the love of God and of our neighbour, or the habit and disposition of loving God with all our heart, and our neighbour as ourselves.

CHARITY, among moralists, is used for the effect of a moral virtue, and consists in supplying the necessities of others, whether with money, counsel, assistance, or the like.

CHARITY of our lady, in church-history, a religious order in France, which, though charity was the principal motive of their union, grew, in length of time, so disorderly and irregular, that their order dwindled, and at last became extinct.

There is still at Paris a religious order of women, called nuns hospitallers of the charity

charity of our lady. The religious of this hospital were by vow obliged to administer to the necessities of the poor and the sick, but those only women.

CHARITY of St. Hippolitus, a religious congregation founded, about the end of the XVIIth century, by one Bernardin Alvarez, a Mexican, in honour of St. Hippolitus the martyr, patron of the city of Mexico; and approved by pope Gregory XIII.

CHARITY-SCHOOLS, are schools erected and maintained by various parishes, by the voluntary contributions of the inhabitants, for teaching poor children to read, write, and other necessary parts of education. In most charity-schools the children are likewise clothed and put out to trades, services, &c. on the same charitable foundation.

The charity-schools which have been erected of late years in London, are the greatest instance of public spirit the age has produced; but indeed when we consider how long this sort of beneficence has been on foot, we must acknowledge it is rather from the good management of those institutions, than from the number and value of the benefactions to them, that they make so great a figure: one would almost think it impossible that in the year 1711, being fourteen years from the first institution, there should not have been five thousand pounds, bestowed in gifts this way, nor sixteen hundred children, including males and females, put out to methods of industry.

Of late, indeed, these charities have increased, and there are now few parishes in and about London, without their charity-schools; besides the vast number of them spread throughout the most considerable towns of England and Wales, and the numerous institutions of that kind all over Scotland.

CHARKING, or **CHARRING**, the making of charcoal. See **CHARCOAL**.

CHARLATAN, or **CHARLETAN**, an empiric, or quack, who retails his medicines on a public stage, and draws the people about him with his buffooneries, feats of activity, &c. See the article **EMPIRIC**.

CHARLEMONT, a town of the province of Namur, in the austrian Netherlands, about eighteen miles south of Namur: east longitude $4^{\circ} 40'$, and north latitude $50^{\circ} 10'$.

CHARLEMONT is also the name of a town of Ireland, situated on the river Black-

water, in the county of Armagh, and province of Ulster, about six miles south-east of Dungannon; west longit. $6^{\circ} 50'$, and north lat. $50^{\circ} 16'$.

CHARLEROI, a strong town in the province of Namur, in the austrian Netherlands, situated on the river Sambre, about nineteen miles west of Namur: east longitude $4^{\circ} 20'$, and north latitude $50^{\circ} 30'$.

CHARLES'S-CAPE, a promontory of Virginia, in north America, forming the northern head-land of the streight that enters the bay of Cheasapeake.

CHARLES'S-CAPE is also the name of a head-land on the south-west part of the streight entering into Hudson's bay.

CHARLES'S-FORT, a fortress in the county of Cork, and province of Munster, in Ireland, situated at the mouth of Kinsaleharbour; west longitude $8^{\circ} 20'$, and north latitude $51^{\circ} 21'$.

CHARLES'S-TOWN, the capital of South Carolina, in North America, situated on a peninsula formed by Ashley and Cooper rivers, the former of which is navigable for ships twenty miles above the town: west long. 79° , and north lat. $32^{\circ} 30'$.

CHARLES'S-AWAIN, in astronomy, seven stars in the constellation called uria major, or the great bear. See the article **URSA**.

CHARLETON, an island at the bottom of Hudson's-bay, in North America, subject to Great Britain: west longitude 80° , and north latitude $52^{\circ} 30'$.

CHARLEVILLE, a town of Ireland, in the county of Cork, and province of Ulster, about thirty miles north of Cork; west long. $8^{\circ} 38'$, and north lat. $52^{\circ} 13'$.

CHARLEVILLE is also a town of Champaign, in France, about thirty-five miles north-west of Rheims; east long. $4^{\circ} 35'$, and north lat. $49^{\circ} 45'$.

CHARLOCK, the english name of a plant called by botanists *rapistrum*, or *crambe*. See the article **CRAMBE**.

Charlock is a very troublesome weed in corn-fields, where we find two species of it very common, *viz.* one with a yellow flower, and the other with a white one. To prevent its growth, the farmers mix horse dung with their cow-dung used in manure, as the last is very apt to breed the charlock. When a field of barley is much infested with it, they mow it down in May, when in flower, taking care only to cut it so low as just to take off the tops of the leaves of the barley.

CHARM, a term derived from the latin *carmen*, a verse, and used to denote a magic

magic power, or spell, by which, with the assistance of the devil, forcerers and witches were supposed to do wonderful things, far surpassing the power of nature. These things are now sufficiently exploded. See the articles *MAGIC*, *CARMEN*, *AMULET*, &c.

CHARNEL, or **CHARNEL-HOUSE**, a kind of portico, or gallery, usually in or near a church-yard, over which were antiently laid the bones of the dead, after the flesh was wholly consumed.

Charnel-houses are now usually adjoining to the church.

CHAROLLES, a town of Burgundy, in France, about thirty-seven miles south-west of Challons on the Soan; east longitude $4^{\circ} 6'$, and north lat. $46^{\circ} 25'$.

CHARRE, or **GILT CHARRE**, a trutta-ceous fish, called by many carpio, and reckoned by Artedi a species of salmon, less than a foot in length, with five rows of teeth in its palate.

Red CHARRE, is likewise a species of salmon, called by authors umbra minor: it is much of the same size with the former, with the belly-fin red, and the under jaw a little longer than the upper one.

CHARRING. See **CHARKING**.

CHART, or **SEA-CHART**, an hydrographical map, or a projection of some parts of the earth's superficies in plano, for the use of navigators.

Charts differ very considerably from geographical or land maps, which are of no use in navigation. Nor are sea-charts all of the same kind, some being what we call plain-charts, others mercator-charts, and others globular-charts.

Plain-CHARTS is a representation of some part of the superficies of the terraqueous globe, in which the meridians are supposed parallel to each other, the parallels of latitude at equal distances, and consequently the degrees of latitude and longitude every where equal to each other.

To construct a plain CHART, that shall contain from five degrees north, to five degrees south latitude; and from six degrees east, to six degrees west longitude; draw the meridian AB (plate XL. fig. 5.) and divide it into as many equal parts as there are degrees of latitude, which in this case are ten: at right angles to the meridian A B, draw the lines A D and B C, which will represent the parallels of five degrees north and five south latitude; and set off in each the number of degrees it must contain, in this case twelve, of

the same length with the degrees of latitude.

Through the several divisions of the right lines A D and B C draw right lines, which will represent so many meridians in the chart. Through the several divisions of the line A B, draw right lines parallel to A D, or B C, which will represent so many parallels of latitude.

If you divide each of the right angles A, B, C, D, into eight equal parts, and draw lines from the angular points through the several divisions of the arches, they will represent the rumb-lines upon the chart, which are of use in finding the bearing of places from each other: but to avoid the confusion which attends a multiplicity of lines, the rumb lines from but one angle are delineated.

For the use of this chart, see the article **NAVIGATION**.

Mercator's CHART, is that where the meridians are straight lines parallel to each other, and equidistant; the parallels are also straight lines, and parallel to each other: but the distance between them increases from the equinoctial towards either pole, in the ratio of the secant of the latitude to the radius.

If the superficies of the terrestrial globe be supposed to be taken off, and extended on a plane, so as to make the meridians parallel to each other, and the degrees of longitude every where equal, it is easy to conceive that it must be productive of most notorious errors; for an island in latitude 60° , where the radius of the parallel is only equal to one half of the radius of the equator, will have its length from east to west distorted in a double ratio to what it was on the globe; that is, its length from east to west, in comparison of its breadth from north to south, will be represented in a double proportion to what it really is: whence it follows, that in whatever proportion the degrees of any parallel are increased or diminished, by a projection in plano, the degrees of longitude ought to be increased or diminished in the same ratio; for otherwise the true bearings and distances of places will be lost, as in the case of the plain-chart, where the degrees of latitude and longitude are all equal.

Though this projection is generally called **Mercator's projection**, yet our countryman, Mr. Wright, had long before invented it, demonstrated its use, and shewn a ready way of constructing it, by

inlarging



enlarging the meridian line, by a continued addition of secants: but neither of these gentlemen is thought the original author of it, as being hinted by Ptolemy about two thousand years ago.

The manner of constructing this projection. Let AB (plate XLI. fig. 1.) be an arch of the equator, intercepted between any two meridians as AP, BP, meeting in P, the pole of the sphere, whose center is C. Upon the points A and B, erect the perpendiculars AH and BI, and let DE represent an arch of any parallel contained between the same meridians. Draw CA and CB, KD and KE, perpendicular to PC; through D and E draw CF, CG, and join FG; lastly, let fall the perpendicular DL.

Now the arch of the equator AB is to the similar arch of the parallel DE, as AC is to DK, or as the radius to the co-sine of the latitude AD. Suppose now the meridians AP, BP, to be in part projected into the perpendiculars AH and BI, then will the arch DE be projected into the arch FG=AB; but in this case DE, the natural length of the arch, is to FG its protracted length, as the radius CD to the secant of the latitude CF, or as the co-sine LC to the radius CD; for as $CF:AC=CD::DC:LC$. Hence it follows that the degrees of latitude in Mercator's chart, increase in proportion of the secant of the latitude to the radius.

For the construction and uses of Mercator's chart, see *Mercator's SAILING*.

Globular CHART, a meridional projection, wherein the distance of the eye from the plane of the meridian, upon which the projection is made, is supposed to be equal to the sine of the angle of 45° . This projection comes the nearest of all to the nature of the globe, because the meridians therein are placed at equal distances; the parallels also are nearly equidistant, and consequently the several parts of the earth have their proper proportion of magnitude, distance and situation, nearly the same as on the globe itself.

Chorographic CHARTS, descriptions of particular countries. See *CHOROGRAPHY*.

Heliographic CHARTS, descriptions of the body of the sun, and of the maculæ or spots observed in it. See the articles *FACULÆ*, *MACULÆ*, and *SUN*.

Hydrographic CHARTS, sheets of large paper, whereon several parts of the land and sea are described, with their respective coasts, harbours, sounds, flats, rocks,

shelves, sands, &c. together with the longitude and latitude of each place, and the points of the compass. See the article *CHART*, or *SEA CHART*, *supra*.

Selenographic CHARTS, particular descriptions of the spots, appearances, and maculæ of the moon. See the article *Heliographic CHARTS*, *supra*.

Topographic CHARTS, draughts of some small parts of the earth only, or of some particular places, without regard to its relative situation, as London, York, &c.

CHARTA EMPORETICA, in pharmacy, &c. a kind of paper made very soft and porous, used to filter withal.

CHARTA, in antient customs, is not only used for a charter, but also for a statute. See *CHARTER* and *STATUTE*.

CHARTA-MAGNA, an antient instrument, containing several privileges and liberties granted to the church and state by Edward the confessor, together with others relating to the feudal laws of William the conqueror, granted by Henry I. all confirmed by the succeeding princes. See the article *MAGNA-CHARTA*.

CHARTA PARDONATIONIS SE DEFENDENDO, is the form of a pardon for a man's slaying another in his own defence.

CHARTA PARDONATIONIS UTLAGARIÆ, the form of a pardon for a man that is out-lawed.

CHARTA SIMPLEX, is a single deed, or deed-pole. See the article *DEED*.

CHARTER, in law, a written instrument or evidence of things acted between one person and another.

Charters of private persons, are deeds and instruments for the conveyance of lands, &c. Here the purchaser of land shall have all the charters and deeds, as incident to the same, and for the maintenance of his title. But this is understood where the feoffor is not bound to a general warranty of the land.

Great CHARTER, *MAGNA-CHARTER*. See the article *MAGNA-CHARTA*.

CHARTER of the king, is where the king makes a grant to any person or body politic, as a charter of exemption, of privilege, pardon, &c.

CHARTER of the forest, that wherein the laws of the forest are comprised and established. See the article *FOREST*.

CHARTER-HOUSE. See *CHARTREUSE*.

CHARTER-LAND, such land as a person holds by charter, that is, by evidence in writing, otherwise termed free-hold. See the article *FREE-HOLD*.

CHARTER-PARTY, in commerce, a deed or writing indented, that is, made between merchants and seafaring men, concerning their merchandize and in ritime affairs. A charter-party of affieightment. settles the agreement in relation to the freight of a ship and cargo, between the merchant and commander or master of the vessel. It binds the master to deliver the cargo in good condition at the place of discharge, &c.

In those charter-parties, if the dangers of the sea are excepted, it has been adjudged that such exception extends as well to any danger upon the sea from pirates or men of war, as to common dangers by shipwreck, tempests, &c.

The charter-party differs from a bill of lading, in that the first is for the intire freight or lading, and that for both going and returning: whereas the latter is only for a part of the freight, or at most only for the voyage one way.

The common law always construes charter parties, as near as may be, according to the intention and design of them, and not according to the literal sense. And, if the master of a ship enters into a charter-party for himself and owners, the master in that case may release the freighters, without advising with the owners: though if the owners let out to freight such a ship, whereof A. B. is master, and he only covenants at the bottom, and subscribes his name, here his release will not bind or affect the owners of the ship; but their release, on the other hand shall bind and include him. See **FREIGHT**.

CHARTIS REDDENDIS, in law, a writ that lies against a person, who having charters of feoffment delivered to him to keep, afterwards refuses to deliver them.

CHARTOPHYLAX, the name of an officer of the church of Constantinople, who attends at the door of the rails when the sacrament is administered, and gives notice to the priests to come to the holy table. He represents the patriarch upon the bench, tries all ecclesiastical causes, keeps all the marriage registers, assists at the consecration of bishops, and presents the bishop elect at the solemnity, and likewise all other subordinate clergy.

CHARTRES, a large city of France, in the province of Orleans, situated on the river Eure, about forty-two miles south-west of Paris; east long. $1^{\circ} 32'$, north lat. $48^{\circ} 27'$.

It is a bishop's see.

CHARTREUSE, or **CHARTREUSE**

GRAND, a celebrated monastery, the capital of all the convents of the carthusian monks, situated on a steep rock in the middle of a large forest of fir-trees, about seven miles north-east of Grenoble, in the province of Dauphine, in France; east long. $5^{\circ} 50'$, north lat. $45^{\circ} 20'$. See the article **CARTHUSIANS**.

From this mother convent, all the others of the same order take their name; among which was the chartreuse of London, corruptly called the charter-house, now converted into an hospital, called from its founder Sutton's hospital, and endowed with a revenue of 6000 l. *per ann.*

Here are maintained eighty decayed gentlemen, not under fifty years of age: also forty four boys are maintained, educated, and fitted either for the university or trades. Those sent to the university, have an exhibition of 20 l. a year each for eight years; the rest are put to trades: the governors of this hospital are sixteen in number, all persons of the first distinction, and take their turns in the nomination of pensioners and scholars.

CHARTULARY, *chartularius*, an officer in the latin church, answering to the chartophylax of the Greeks. See the article **CHARTOPHYLAX**.

CHARYBDIS, a rock in the strait of Messina, between Italy and Sicily, much celebrated in the writings of antient poets.

CHARYBDIS is also an appellation given by Dr. Plot to certain openings in the bottom of the sea, whereby the water is conveyed to the origin or sources of springs, rivers, &c.

The fluxus moschonicus, or maalfrome on the coast of Norway, is supposed to be owing to some such subterranean indraught; and it is advanced also, that the Mediterranean sea could not be emptied of the vast quantities of waters it receives, but must overflow the land of Egypt, unless swallowed by some such charybdis, which is either in some part of the basin of that sea, or near the mouth of it; in which case, it may be the occasion of that strong under-current, described by all those who have treated of this sea. An immense charybdis, placed near the Strait's mouth, may be hid under the immensity of waters there; but as it would absorb the deep waters continually, and that in large quantities, it would necessarily cause such an under-current there.

CHASE, a great quantity of ground lying open

open and privileged for wild beasts and wild fowl. Such is Endfield-chase.

A chase differs from a forest, inasmuch as it may be in the hands of a subject, which a forest in its proper nature cannot; and from a park, in that it is not inclosed, and hath more officers. A chase is not endowed like a forest with so many liberties, as the courts of attachment, swainmote, and justice seat; and cannot lawfully be made, without license from the king under the broad seal.

CHASE in the sea-language, signifies the ship chased or pursued. See **CHASING**.

To give CHASE, is to pursue a ship at sea. *Stern CHASE*, is when the chase is right ahead with the chaser.

To lie with a ship's fore-foot in the CHASE, is to sail the nearest way to meet her, and so to cross her in her way, or to come across her fore-foot.

A ship is said to have a good forward or stern-chase, when she is built forward on, or a-stern, that she can carry many guns, to shoot right forwards or backwards.

CHASE of a gun, is the whole bore of a piece of cannon.

CHASE GUNS, those guns the ports of which are either in the head or in the stern. The former are useful in chasing others: the latter, when a ship is chased or pursued by another ship.

CHASING, in the sea-language, is the giving chase. See the article **CHASE**.

In chasing, these rules are to be observed. If the chase be to the windward, the chaser is to bring all his tacks aboard, and to shape his course to meet her at the nearest angle. If the chase be to the leeward, then the chaser may come in with her, unless she bear right before the wind, and so out-sail her; or bring her close by a wind, and the chaser prove the more leeward ship. If the chase be found right a-head, and so the chaser be put to a stern chase, then the best sailer will carry it, if there be sea-room and day-light.

Being come up close with the chase, endeavour to cross her fore-foot, by which means you will both hinder her way, avoid the fury of her ordnance, and scower her decks from stem to stern, as you pass thwart her hawse. And if she makes away from you, ply your guns with case shot, or cross bar-shot, at her sails, yards, masts, and general tackling.

CHASING of gold, silver, &c. See the article **ENCHASING**.

CHASM, $\chi\alpha\sigma\mu\alpha\varsigma$, or $\chi\alpha\sigma\mu\eta$, properly

signifies a large gap or hiatus; and hence has been used for oscitation or yawning.

CHASTE TREE, the english name of the vitex. See the article **VITEX**.

CHASTISEMENT, in the manège, the severe and rigorous effect of the aids; for when the aids are given with severity, they become punishments. See **AIDS**.

CHATELET, the name of certain courts of justice established in several cities in France. The grand chatelet at Paris, is the place where the preſidial or ordinary court of justice of the provost of Paris is kept; consisting of a preſidial, a civil chamber, a criminal chamber, and a chamber of policy. The little chatelet is an old fort, now serving as a prison.

CHATHAM, a port-town of Kent, adjoining to Rochester, situated on the river Medway, thirty miles south-east of London; east long. 40° , north lat. $51^{\circ} 20'$.

It is one of the principal stations of the royal navy, and is furnished with timber, rope-yards, and all manner of naval stores, sufficient for the building and fitting out the largest fleet.

CHATTEAU CAMBRESIS, a town of the Cambresis, in the french Netherlands, situated on the river Selle, thirteen miles south-east of Cambray; east long. $3^{\circ} 25'$, north lat. $50^{\circ} 6'$.

CHATTEAU-DAUPHINE, a fortress situated on the frontiers of Piedmont, in the province of Dauphine, but yielded to the king of Sardinia; east long. $6^{\circ} 40'$, north lat. $44^{\circ} 30'$.

CHATTEAU-DUN, a town of France, twenty-five miles north west of Orleans; east long. $1^{\circ} 25'$, north lat. $48^{\circ} 5'$.

CHATTEAU-ROUX, a town of Berri, in France, situated upon the Indre, about fifteen leagues from Bourges.

CHATEL CHALONS, a town of France, in the province of Franche Comte, about twenty miles south of Dole; east long. $5^{\circ} 35'$, north lat. $46^{\circ} 50'$.

CHATELLERAUT, a town of France, in the province of Orleans, about eighteen miles north-east of Poitiers; east long. $35'$, north lat. $46^{\circ} 45'$.

CHATELET, a town of the Low Countries, in the province of Namur, situated on the river Sambre, four miles east of Charleroy; east long. $4^{\circ} 30'$, north lat. $50^{\circ} 25'$.

CHATELS, in law, all sorts of goods moveable and immoveable, except such as are in the nature of freehold.

Chattels are reckoned either personal, or real.

The former are such as do belong either immediately to the person of a man, as his horse, sword, &c. or such things as being injuriously held from him, a man hath no way to recover but by a personal action. See the article PERSONAL.

The latter are such as do not immediately belong to the person of a man, but to some other thing, by way of independence, as a box with charters of land, apples upon a tree, &c. or such things as necessarily issue out of some immoveable thing to a person, as a lease or rent for years; also a hold at will.

CHATTER, or **STONE CHATTER**. See the article STONE.

CHATTIGAN, a port-town of India, in the province of Bengal, situated at the mouth of the most easterly branch of the Ganges, subject to the mogul: east long. 91°, north lat. 23°.

CHATTILLON, a town of Burgundy, in France, about sixteen miles south-west of Geneva; east long. 5° 40', north lat. 46° 16'.

This is likewise the name of several other towns of France, situated upon the Indre, the Loing, the Loire, the Marne, the Saone, &c.

CHAVARIGHTS, a sect of mahometans, who deny that God ever sent a prophet that was infallible, and who had a commission to give a law to mankind: they pretend likewise, that if such an office should ever become necessary, it would not be confined to a single family, but that every man of probity and virtue would be capable of that honour.

CHAUFÉ-WAX. See CHAFÉ-WAX.

CHAUMONT, the name of two towns of France: the one situated in the isle of France, thirty miles north-west of Paris: east longitude 2°, north latitude 49° 18': the other situated on the river Marne, in the province of Champaign; east long. 5° 15', north lat. 48° 12'.

CHAUNTER, **CHAUNTOR**, or **CHANTOR**. See the article CHANTOR.

CHAUNTRY, or **CHANTRY**. See the article CHANTRY.

CHAUSE-TRAPE, or **CHAUSSÉ-TRAPE**, the same with caltrop. See CALTROP.

CHAZINZARIANS, in church-history, a sect of heretics who adored the cross. *Chazus* signifies the cross, in the armenian language: they arose in Armenia, in the seventh century.

CHEADLE, a market-town of Staffordshire, ten miles north-east of Stafford: west long. 2°, north lat. 53°.

CHEASPEAK-BAY, a large strait or arm of the sea, which runs up about three hundred miles into the country between Virginia and Maryland, in North America: it is navigable almost all the way for large ships; being about twenty miles broad at the entrance between Charlescape and cape Henry, and between twenty and thirty miles broad afterwards. See the article CHARLES-CAPE.

CHECAYA, in turkish affairs, the second officer of the janizaries, who commands them under the aga, and is otherwise called protogero:

There is also a checaya of the treasury, stables, kitchen, &c. the word signifying as much as lieutenant, or the second in any office.

CHECK, or **CHECK-ROLL**, a roll or book, wherein is contained the names of such persons as are attendants and in pay to the king, or other great personages, as their household servants.

Clerk of the CHECK, in the king's household, has the check and controulment of the yeomen of the guard, and all the ushers belonging to the royal family, allowing their absence or defects in attendance, or diminishing their wages for the same, &c. He also, by himself or deputy, takes the view of those that are to watch in the court, and has the setting of the watch, &c.

Clerk of the CHECK, in the king's navy at Plymouth, &c. is also the name of an officer invested with the like power.

CHECK, in falconry, a term used of a hawk when she forsakes her proper game, to fly at pyes, crows, rooks, or the like, that cross her in her flight.

CHECKY, in heraldry, is when the shield, or a part thereof, as a boudure, &c. is chequered, or divided into chequers or squares, in the manner of a chess-board. See plate XLI. fig. 2.

This is one of the most noble and most ancient figures used in armory; and a certain author saith, that it ought to be given to none but great warriors, in token of their bravery: for the chess-board represents a field of battle, and the pawns of men, placed on both sides, represent the soldiers of the two armies, which move, attack, advance, or retire, according to the will of the two gamesters, who are the generals.

This figure is always composed of metal and colour: but some authors would have it reckoned among the several sorts of furs.

CHEEK, in anatomy, that part of the face

face situated below the eyes, on each side. Wounds of the cheeks, if small, may be cured by the dry suture; but if large, the bloody one must be used. See the article SUTURE.

CHEEKS, among mechanics, are almost all those pieces of their machines and instruments, that are double, and perfectly alike; as the cheeks of a mortar, which are made of strong wooden planks, of a semicircular form, bound with thick plates of iron, and fixed to the bed with four bolts: these cheeks rise on each side the mortar, and serve to keep it at what elevation is given it: the cheeks of a printing-press are its two principal pieces, placed perpendicular and parallel to each other, and serving to sustain the three combers, &c.

CHEEKS, in ship building, two pieces of timber, fitted on each side of the mast, at the top, serving to strengthen the mast there, and having holes in them, called hounds, through which the ties run to hoist the yards.

Also the uppermost rail, or piece of timber in the beak of a ship, and those on each side of the trail-board, are called the upper and lower cheek.

The knees also which fasten the beak-head to the bows of a ship, are called cheeks.

CHEESE, *caseus*, a sort of food, prepared of curdled milk, purged from the serum or whey, and afterwards dried for use. Physicians condemn the too free use of cheese, by reason it loads the stomach when new, and heats and inflames when old.

Every country has its places noted for this commodity: thus Chester and Gloucester-cheeses are famous in England; and the Parmesan cheese is in no less repute abroad, especially in France. This sort of cheese is entirely made of sweet cow's milk: but at Rochfort, in Languedoc, they make cheese of ewe's milk; and in other places, it is usual to add goat or ewe's milk, in a certain proportion, to that of cow's.

There is likewise a kind of medicated cheese, made by intimately mixing the expressed juice of certain herbs, as sage, baum, mint, &c. with the curd, before it is fashioned into a cheese. The 100 weight of cheese pays on importation 1 s. 3 $\frac{1}{4}$ d. and draws back, on exportation, 1 s. 1 $\frac{1}{2}$ d. at the rate of 6 s. 8 d. The cheese of Ireland is prohibited to be imported.

CHEESE-RUNNET, in botany, the same with the gallium of authors. See the article GALLIUM.

CHEGFORD, a market-town of Devonshire, about thirteen miles west of Exeter; west longitude 4°, north latitude 50° 40'.

CHEIRANTHUS, in botany, a genus of the tetradynamia siliquosa class of plants, called also leucoium, and in english, wall-flower, or stock-july flower.

The flower consists of four roundish and cruciform petals: the fruit is a long, compressed, bilocular pod, containing a great number of pendulous, oval, and compressed seeds.

The flowers of this plant are said to be cordial, anodyne, aperient, and emmenagogue.

CHEKAO, a kind of paste, prepared by calcination and trituration from a hard stony substance, and afterwards washing the powder in large quantities of fair water.

The Chinese use the chekao in drawing the elegant figures we see in the wholly white china-ware, which they afterwards varnish in the common way.

CHEKIAM, a province of China, bounded by that of Nankin on the north, and by the ocean on the east.

CHELAZIUM, a name used by some for a distemper of the eye, commonly called a stiche or sty.

CHELIDONIA, in grecian antiquity, a festival celebrated at Rhodes, in the month of Boedromion, in which the boys went from door to door begging and singing a song called *χελιδονισμα*, because it began with an invocation of the *χελιδον*, or swallow.

CHELIDONIUM, *CELANDINE*, or the yellow horned poppy, in botany, a genus of the polyandria-monogynia class of plants: the corolla consists of four roundish, plane, patent petals, large and narrow at the base: the fruit is a cylindric pod, formed of two valves, and containing only one cell: the seeds are numerous, oval and smooth: the receptacle is linear, between the valves, in form of a suture, and not opening.

This plant abounds with a sharp, acrid salt, which makes it deterfiv, and is therefore, recommended in the jaundice particularly, and in all other obstructions and disorders of the viscera. The juice is also esteemed for taking films, clouds and specks off the eyes.

CHELEDONIUS LAPIS, in natural-history,

sy, a stone said by the antients to be found in the stomachs of young swallows, and greatly cried up for its virtues in the falling sickness; but from their description, it appears to be only a species of lycodontes, or bufonitæ. See the articles LYCODONTES and BUFONITÆ.

CHELM, a town of Poland, capital of a palatinate of the same name: it is situated in the province of red Russia, 110 miles south-east of Warsaw; east long. $23^{\circ} 30'$, north lat. $51^{\circ} 25'$.

CHELM-FORD, the county-town of Essex, situated on the river Chelmer, twenty-five miles north-east of London; east long. $30'$, north lat. $51^{\circ} 40'$.

It sends two members to parliament.

CHELON, in ichthyology, a fish of the mullet-kind, extremely like the common mullet. See the article MUGIL.

CHELONE, in botany, a genus of the didynamia-angiospermia class of plants: the corolla consists of only one petal; the tube is cylindric and very short; the mouth is inflated, oblong, convex above, and plane below; the upper lip is obtuse and emarginated; the lower is almost equal with the higher, and is divided into three small segments. The fruit is a roundish capsule, containing only one cell, and longer than the cup: the seeds are numerous, roundish, and covered with a membranaceous margin.

CHELSEA, a fine village situated on the northern bank of the river Thames, a mile westward of Westminster, remarkable for a magnificent hospital of invalids and old decrepit soldiers; and a pleasure house, called Ranelagh, to which a great deal of fine company resort in summer.

CHELTENHAM, or **CHILTENHAM**, a market-town of Gloucestershire, seven miles north-east of Gloucester: west long. $2^{\circ} 10'$, north lat. $51^{\circ} 50'$.

It is chiefly remarkable for its mineral waters, of the same kind with those of Scarborough. See SCARBOROUGH.

CHELYS, among the antients, a musical instrument of the pulsative kind, said to be invented by Mercury, and made of a shell found in the river Nile, at time of low water.

CHEMA, or **CHEME**, in antiquity, a measure among the antient physicians, containing two spoonfuls: it was the fifth part of the cyathus or cup: full of oil, it weighed two drachms, and seventeen grains.

CHEMIN des ronds, in fortification, a

space between the rampart and low parapet under it, for the rounds to go about the same.

CHEMISE, in fortification, the wall with which a bastion, or any other bulwark of earth, is lined for its greater support and strength: or it is the solidity of the wall from the talus to the stone-row.

Fire-CHEMISE, a piece of linen-cloth steeped in a composition of oil of petrol, camphor, and other combustible matters, used at sea, to set fire to an enemy's vessel.

CHEMISTRY, *χημεία*, an art which teaches the manner of performing certain physical operations, whereby bodies, cognizable to the senses, or such as may be rendered so, and are capable of being contained in vessels, may, by suitable instruments, be so changed, that particular determined effects may be thence produced, and the causes of these effects understood, for the service of various arts.

The object whereon chemistry is employed to produce changes, extends not only to all sensible bodies, but even to insensible ones, especially such as may be collected and contained in vessels; which bodies, by a careful review, have been reduced by the chemists to three kingdoms, or classes, containing the fossile, the vegetable, and the animal kingdom.

Dr. Shaw divides chemistry in general into philosophical, technical, commercial, and oeconomic.

Philosophical CHEMISTRY he defines a rational art of dividing, or resolving, all the bodies within our power, by means of all the instruments we can procure, as well into integrant as constituent parts; and joining these parts together again, so as to discover the principles, relations, and changes of bodies; make various resolutions, mixtures, and compositions; find out the physical cause of physical effects: and hence improve the state of natural knowledge, and the arts thereon depending. See THEORY.

Philosophical chemistry consists of three parts, *viz.* invention, rationale, and experiment; whence it is otherwise defined, a particular exercise of the rational and inventive faculties of the mind, leading to experiments, and thence to the discovery of causes, so as to form axioms that shall rationally account for phenomena, and discover rules of practice for producing useful effects: thus philosophical chemistry is not only a key to all the other parts, but of itself discovers the causes of many natural phenomena, as parti-

particularly earthquakes, vulcanos, vegetation, the growth of minerals, &c. See the articles EARTHQUAKE, VULCANO, VEGETATION, &c.

This branch of chemistry also explains the general forms and qualities of bodies, whereon their properties and effects depend; as volatility and fixedness, fluidity and firmness, colours, tastes, odours, effervescences, fermentation, precipitation, congelation, extraction, and the like. See VOLATILITY, FIXEDNESS, COLOUR, TASTE, ODOUR, &c.

From the first definition of philosophical chemistry, it follows that the objects of this art are all the bodies within our power, and are therefore taken from the three larger masses or regions of the globe, *viz.* the earth, water, and atmosphere. See the article EARTH, &c.

It also follows, that the instruments of chemistry are all those we can any way procure: there are several instruments continually at work in the three larger masses, or kingdoms of the globe, *viz.* the earth, water, and atmosphere, for the immediate production of effects. We evidently find, that metals and minerals are formed within the earth; vegetables on its surface, shooting into the air; meteors in the atmosphere; and men, beasts, and birds, in the confines of the two: the physical cause of all which, are to be generally sought as so many rules of practice. The principal physical agents in nature appear to be, 1. heat, 2. cold, 3. air, or the integrant parts of the atmosphere, 4. water, and 5. proper beds or matrices. This is matter of direct observation; and might occasion the establishing the four elements, fire, air, water and earth. See the articles HEAT, COLD, AIR, and WATER.

Proper beds or matrices appear to have an instrumental agency in the production of natural bodies: every subject of an operation, is necessarily contained in something that may, 1. afford it a lodgment, 2. make some resistance, and 3. convey heat, cold, water, or air to it, or determine their actions upon it. Thus in vegetation, the matrix earth supports the seed, resists its swelling, and conveys a strained or prepared moisture to it.

The matrices of gems and ores, not only afford a proper lodgment to the subject-matter, but also resist its growth, by the pressure of their sides: which, however, give way a little, and at the same time strain and convey suitable juices to the

subject: and something of this kind is observed of the fœtus in utero, the hatching of eggs, &c. inasmuch that closeness, moderate resistance, or a slow-yielding of the sides of the matrix, and a straining of the juices through them (unless supplied from within) seem requisite for the formation and production of all vegetable, animal and mineral substances. Whence we are furnished with a capital rule for the improvement of chemistry, natural philosophy, and arts; and taught that, in order to imitate nature, chemistry must not be confined to the sole use of fire, as its instrument, but occasionally employ water, cold, air, earth, and proper matrices or vessels. See the articles VEGETATION, GENERATION, FOETUS, HATCHING, EXPERIMENTAL PHILOSOPHY, &c.

But besides the natural instruments, there is a great variety of artificial ones belonging to chemistry, which seems to raise the power of this art, in some respects, above the power of nature: thus by means of particular menstruums, it performs operations which nature of herself does not. For instance, of all the metals only iron and copper are found naturally converted into vitriol; whereas chemistry makes vitriols even of gold, silver, tin, and lead. And hence the productions of art may be much more numerous than the productions of nature, or enlarged at pleasure, to the great enrichment of arts, and the enlargement of the kingdom of man. In which light the numerous productions of the chemical trades may be considered, as by fermentation, distillation, dying, soap-making, the art of glass, metallurgy, &c. See the articles MENSTRUUM, FERMENTATION, DISTILLATION, &c.

Another set of instruments belonging to chemistry, are vessels, furnaces, and utensils, of which there is a great variety for various purposes, and capable of producing numerous changes in bodies, as by amalgamation, cæmentation, effusion, fermentation, putrefaction, reduction, &c. See the articles LABORATORY, FURNACE, AMALGAMATION, CÆMENTATION, FUSION, &c.

To the above-mentioned, Dr. Shaw adds a new set, *viz.* the air pump, condenser, digester, microscopes, burning concaves, prisms, lenses, portable furnaces, and every other instrument that can be invented, or procured, of advantage to the art. See the articles AIR-PUMP, CON-

CONDENSER, DIGESTOR, MICROSCOPE, BURNING-GLASS, PRISM, LENS, and FURNACE.

There are two capital ways wherein chemistry divides its objects, by the several instruments above-mentioned, *viz.* into integrant parts, and into constituent parts. By integrant parts we understand similar parts, or parts of the same nature with the whole, as filings of iron have the same nature and properties as bars of iron. Under this general operation fall those particular ones of triture, limitation, solution, amalgamation, sublimation, &c. And by constituent parts we mean dissimilar parts, or parts of a different nature from the whole, as when artificial cinnabar is divided into the quicksilver and sulphur; and under this general operation come all kinds of resolutions. See TRITURE, LIMITATION, SOLUTION, &c. These two general operations of chemistry bear relation to two general structures of bodies, *viz.* the aggregate, and the mixt. Aggregates, in their resolution, constantly retain their mixture in every the smallest part or atom; but when mixts are resolved, the mixture is destroyed, and two or more new aggregates are produced; thus when brandy is resolved, spirit of wine, or alcohol, and water are produced. Every sensible mixt, or aggregate, is composed of many insensible ones. Before gold can become sensible to us, there must be a collection of numerous parts that are separately insensible, though all of them perfect gold. The minutest grain of cinnabar has two different parts, sulphur and quicksilver. The minutest grain of salt contains sand and fixed salt; and when quicksilver is dissolved in aquafortis, the least assignable portion of the menstruum contains a proportionable quantity of mercury to the whole. See ANALYSIS, ALCOHOL, GOLD, CINNABAR, SULPHUR, &c.

Either the integrant, or the constituent parts of bodies being once divided or resolved, various occasions in chemistry require them to be joined together again, for composing a whole like the original subject. This operation is the converse of the former; thus by simple mixture we recombine brandy from alcohol and water, and by precipitation with a copper-plate, collect the quicksilver dispersed in aquafortis. See the article *SYNTHETIC Chemistry*.

The resolutions, mixtures, and compositions made by chemistry are extremely

numerous, and may be increased *ad infinitum*. Brandy gently distilled by the balneum mariæ, as was said before, is resolved into spirit of wine and water. And to this class of resolutions are referable all kinds of depurations, purifications, separations, clarifications, &c. See DEPURATION, PURIFICATION, SEPARATION, CLARIFICATION, &c. By mixture we produce all the artificial vitriols, soaps, glasses, &c. and can compound these again, in an almost infinite variety; so that of the resolutions, mixtures, compositions, and recompositions, in chemistry, there seems to be no bounds; whence great room is left for the making of new chemical discoveries.

Philosophical chemistry being, in the definition given by our learned author, a rational art; by which is meant, that it may be conducted by rule, and need not be left to accidental trial and casual experiment, he endeavours to comprize the rules for conducting it under the following three.

Rule I. When a body is offered in order to have new properties discovered in it, different from those general ones of figure, gravity, elasticity, &c. which come under mathematical consideration, let the body be resolved by degrees into the simplest constituent parts it is any way capable of, by the instruments pointed out above; and let trial be made with each separate part, on a variety of bodies, according to some analogy of a previous chemical knowledge, leading from one thing to another. In a sure or probable method of ratiocination.

Rule II. Let the several parts obtained by the preceding analysis be re-united, beginning with two, and proceeding gradually to the whole number; using at first the gentlest degree, then the intermediate, and at last the highest degrees of heat and cold. Thus for example, join the fixed salt and oil of a plant together; first by simple digestion, and afterwards by boiling, which affords a third production, dissimilar to all the rest, and known by the name of soap; so again melt the same fixed salt with the earth of a plant, and this will afford glass. Let the last attempt be to reunite all the separated parts of the body, in order, if possible, to form the original substance again.

Rule III. In every operation performed, let the greatest diligence and exactness of observation be used, with regard to all the principal phenomena and effects produced. Let the phenomena be duly registered,

gifted, tabled, considered, and compared together, after the strict geometrical manner; the result whereof, if there be no considerable errors committed, will lead to a knowledge of the secret springs, motions, instruments, and means made use of by nature for producing effects. And thus, with the proper care and application, just canons or rules of practice may be formed. The following are what the Doctor calls imperfect axioms and canons, deduced from a number of experiments, and the preceding enquiry, for directing farther discoveries and improvements in chemical and natural knowledge.

1. We may learn that a true chemistry (as it may perhaps be justly called) is exercised by nature, in the vegetable, animal, mineral, marine, and atmospheric regions, and that by it all bodies are produced, converted, renovated, repaired, and maintained; and that in the exact discovery, imitation, and controul of this natural chemistry, consists the perfection of the artificial. 2. That neither the eye, nor all the senses together, can give us any information of the latent properties of bodies, their natures, and uses; but only particular trials and experiments, well attended to and considered. 3. That experiments are but a kind of dead things, unless they have a direct use in life, or tend to the raising axioms and canons for improving our knowledge, and extending our power over the works of nature. 4. That he who can chuse fit subjects, and place them in proper matrices or including vessels, supply them duly with air and water, heat and cold, may probably produce great effects in imitation of nature. 5. That nature points out three ways of producing physical effects, different in fineness, *viz.* in beds of earth, beds of water, and beds of atmosphere; beds of earth for minerals, of water for fish, and of atmosphere for birds, meteors, &c. the confines of these two for plants and animals, and a rarefied mixture of all matters for meteors. 6. That men may make use of the same instruments as nature does, *viz.* fire, air, water, and earth, and consequently produce the same kind of effects, if skill, that is knowledge, be not wanting: whence to improve in knowledge, is to improve in arts. 7. That chemistry is not confined to the use of fire only, but, in imitation of nature, may employ cold, air, water, and earth, upon matter, in

various degrees of simplicity, combination, and mixture, which shews an extensive method of enlarging the bounds of the art. 8. That fire is not only an analyzer in some cases, but also a mixer of bodies in others, and this to the advantage of chemistry. For if it only separated, it could produce but few effects, in comparison of that infinite variety it now produces, both by mixture and separation. 9. That it might be proper to try the reciprocation of heat and cold in chemical operations, after the manner of nature in day and night, summer and winter. 10. That body in all its forms is the object of chemistry, not considered mathematically nor mechanically, but operatively and effectively. 11. That the atoms, or primary small compositions of bodies, are insensible to us. Thus the first particles of gold, salts, metals, and minerals, may float in the air, and not be perceived by us till they aggregate or collect together, and make a sensible mass, or produce a sensible effect. 12. That some operation of the mind is requisite to digest, methodize, and register chemical experiments and observations, without which we cannot understand the laws observed by nature in physical operations, nor be able to imitate them; the chemistry or regular processes of the mind, being here as necessary as the corporeal operations themselves.

Technical CHEMISTRY is defined to be the application of philosophical chemistry to the immediate service of an art, so as to invent, form, assist, promote, or perfect it in the large way of business. This branch of chemistry is, for the sake of use and commodiousness, divided by our author into four parts, as it relates to subjects of the animal, vegetable, and mineral kingdoms, or to several of them at once. Thus under animal arts comes the art of preparing size and glue, tanning, ivory-staining, the dying in wool, silk, &c. Under vegetable arts comes the art of timber, or the ways of preserving it sound against the injuries of the weather, the sea, &c. the art of making rosin, pitch, oil of turpentine, charcoal, potash, &c. the art of brewing and fermenting for wines, vinegars, &c. the art of sugar-making and refining, the art of soap-making, &c. Under mineral arts come the arts of salt, copperas, vitriol, borax, pottery, metals, foundery, smithery, &c. And lastly, under mixed arts come the art of paper, the art of ink, the art of japanning,

panning, the art of glass, the art of pigments, the art of pharmacy, the art of fire-works, &c. all which are proper chemical arts, that fall under technical chemistry. See the articles *SIZE, GLUE, &c.*

Commercial CHEMISTRY is the application of both philosophical and technical chemistry, to the establishing, supporting, and improving any branch of trade and commerce. Commercial chemistry consists of three parts, *viz.* 1. The exercise of all the chemical arts in a large manner, so as to supply more than the demands of a single country, and afford a surplus of commodities for exportation and foreign consumption. 2. The various ways of condensing, curing, preparing, securing, and fitting natural and artificial commodities for carriage and transportation. And 3. The ways of supplying the chemical necessities to voyagers and travellers, for founding, supporting, and improving trade, traffic, and commerce, in different countries.

It is by means of technical and commercial chemistry together, that different countries are supplied with lead, tin, iron, silver, oil, tallow, tanned hides, pitch, rosin, brimstone, wax, wines, brandies, salt, sugars, treacle, paper, &c. whereby all trades, traffic, and commerce are supported. And to discover this kind of contrivances or reductions, is the office of commercial chemistry; thus instead of importing many tuns of a foreign-dying wood, we are taught to extract its tinging parts, and bring them away in the quantity of a few pounds. It affords the necessities for long trading voyages; it directs to the certain rules of discovering the sophistications practised in wines, brandies, vinegars, arracks, gold-sand, gold bars or ingots, counterfeited gems, &c. and to the way of assaying pot-ash, tincal, ambergrease, musk, and all the drugs, &c. See the articles **IRON, SILVER, OIL, &c.**

Oeconomical CHEMISTRY is the application of philosophical, technical, and commercial chemistry, to the service and accommodation of a family, being of great use and extent, so as to be capable of improving all the rest. This branch is divided with regard to the several offices of a house, wherein, as in so many different laboratories, it may be commodiously practised; for instance, in the brew-house, the store-room, the kitchen, the dairy, the laundry, and the cellar. Thus by means of oeconomical chemistry, we

are instructed in the best ways of procuring and brewing with malt, treacle, honey, sugar, or other vegetable juices; the best ways of raising and of preserving yeast or wine-lees, for baking or brewing, and of imitating the natural wines of foreign growth. This art directs us how to procure the simple and compound waters of vegetables in their greatest perfection, and to make a set of brandies or cordial waters, even from the gross lees, sediments, or bottoms of our wine or ale-casks. Hence also we learn the method of preserving fruits in sugar, and several vegetable productions in the way of pickle, &c. and the art of cookery is also improvable by this means. See the articles **BREWING, &c.**

Analytical CHEMISTRY, that part of chemistry which teaches the art of analysing vegetable, animal, and mineral substances, and resolving them into different parts or principles. See **ANALYSIS**.

Synthetic or Synthetical CHEMISTRY. See the article **SYNTHETIC**.

With respect to the well-known enthusiasm of the chemists, there are some causes to be assigned why those who first cultivated this art, were so extremely addicted to fiction. Chemistry was formerly in the hands of miners and smelters of metals; men unacquainted with the liberal sciences, condemned to lead their lives in darkness, under ground, and to support their wretched beings with coarse and hard fare; besides, these men were daily obnoxious to a thousand dangers, dreading what might happen, disturbed in mind, and leading a very uneasy life. Under these circumstances they gave their attention to superstitious tales and fabulous stories. These and many other circumstances that might be named, gave occasion to the revival of these absurd notions of the Magi, Chaldeans, and Persians, that the fire was God, &c. Some among the chemists tried the magic arts of Zoroaster; some, with Plato, imagined demons existing every where: there was nothing but what they bedaubed with their commentaries, types, and riddles; the fanatical humour at last prevailing to such a degree, as to change the history of facts, and the miracles wrought in confirmation of the gospel, into the maxims of alchemy. See **ALCHEMY**.

At the declension of the eastern empire, chemistry shared the common fate of the other arts, and lay buried and neglected, till the time of friar Bacon, by whom it

was in a great measure retrieved. He was followed by Raymund Lully, Basil Valentine, Paracelsus, Van Helmont, Mr. Boyle, Boerhaave, Shaw, Geoffroy, Neumann, &c.

CHEMOSIS, a disease of the eyes, proceeding from an inflammation, when the white of the eye swells above the black, and overtops it to such a degree, that there appears a sort of gap between them.

Others define it to be an elevation of the membrane which surrounds the eye, and is called the white; being an affection of the eye, like white flesh.

CHENOPODIUM, in botany, a genus of the pentandria-digynia class of plants, comprehending goose-foot, english mercury, and stinking orrach.

It has no flower petals, nor pericarpium, except the cup, which contains a single, orbicular, and depressed seed.

CHEPELIO, an island in the bay of Panama, and province of Darien, in South America, situated about three leagues from the city of Panama, which it supplies with provisions: west long. 81° , north lat. 9° .

CHEPSTOW, a market-town in Monmouthshire, situated on the river Wye, near its mouth, about ten miles south of Monmouth: west longitude $2^{\circ} 40'$, north latitude $51^{\circ} 40'$.

CHEQ, or **CHERIF**, the prince of Mecca, who is, as it were, high priest of the law, and sovereign pontiff of all the mahometans, of whatever sect or country they be. See the article **CALIPH**.

The grand signior, sophies, mogols, kans of Tartary, &c. send him yearly presents, especially tapestry to cover Mahomet's tomb withal, together with a sumptuous tent for himself, and vast sums of money to provide for all the pilgrims, during the seventeen days of their devotion.

CHERBURG, a port-town of France, in the province of Normandy, situated on a bay of the english channel, opposite to Hampshire, in England: west long. $1^{\circ} 40'$, north lat. $49^{\circ} 45'$.

CHEREF, or **CHERIF**, is a title assumed by the emperors of Morocco. See the articles **CHEQ** and **CALIPH**.

CHEREM, in jewish antiquity, the second and greater sort of excommunication among the Jews.

The cherem deprived the excommunicated person of almost all the advantages of civil society: he could have no com-

merce with any one, could neither buy nor sell, except such things as were absolutely necessary for life; nor resort to the schools, nor enter the synagogues; and no one was permitted to eat or drink with him.

The sentence of cherem was to be pronounced by ten persons, or at least in the presence of ten; but the excommunicated persons might be absolved by three judges, or even by one, provided he were a doctor of the law. The form of this excommunication was loaded with a multitude of curses and imprecations, taken from different parts of the scripture.

CHERESOUL, the capital of Curdistan, in asiatic Turkey, and the seat of the beglerbeg, or viceroy, of the province: east long. 45° , north lat. 36° .

CHERLERIA, in botany, a genus of the decandria-trigynia class of plants: the flower has properly no petals; the nectaria are five in number, roundish and emarginated, very small, and placed in a circular direction: the fruit is a capsule of an ovated figure, formed of three valves, and containing three cells: the seeds are numerous, convex on one side, and angulated on the other.

CHERMES, in zoology, a genus of four-winged insects, the characters of which are these: its rostrum, or trunk, is situated under the breast; the abdomen is mucronated or pointed at the hinder extremity; and the legs are formed for leaping.

These insects, which are called in english *bugs*, take particular denominations from the trees or plants on which they feed; as the *chermes ulmi*, or elm-bug, the fir-bug, the birch-bug, the maple-bug, the willow-bug, the nettle-bug, &c.

CHERRY-TREE, *cerasus*, in botany. See the article **CERASUS**.

If these trees are planted against walls, it is adviseable to set dwarfs between the standards, to cover the lower part of the wall, while these last spread over the upper part; and when the dwarfs grow up to fill the whole wall, the standards should be taken away.

The best cherries for eating are those of a hard substance, when fully ripe; the soft and watry ones being of a cold and putrescent nature: the four kinds are also preferable to the sweet. Eaten in moderation, they quench thirst, and create an appetite, especially if boiled with a good quantity of sugar to them.

CHERRY likewise makes part of the english name of several other trees : thus the *malpighia* of authors is called Barbadoes or cow-hedge cherry ; the *padus*, bay-cherry, bird-cherry, or laurel-cherry ; the *cornus*, cornel cherry, &c. See the article **MALPIGHIA**, &c.

CHERRY-BRANDY, a drink made of brandy, with the addition of black-cherries. A bottle being half filled with these, is filled up with brandy, and shaken several times : in a month's time it will be ready to drink. To sweeten it, as well as to improve the flavour, some add sugar and a few raspberries.

CHERRY-WINE is made of the expressed juice of cherries, to every two gallons of which two pounds of sugar are added : this done, it is put into a vessel to ferment, and after standing two months in the cask, is bottled off with a little sugar for use.

CHERRY-ISLE, in geography, an island situated in the north or frozen ocean, between Norway and Greenland : east longitude 20°, north latitude 75°.

CHERSO, the capital of an island of the same name, in the gulph of Venice, and subject to the Venetians : east longitude 15°, north latitude 45° 25'.

CHERSONESUS, *Χερσονησος*, among geographers, the same with a peninsula. See the article **PENINSULA**.

CHERTSEY, a market-town of Surry, about seven miles west of Kingston : west longitude 30°, north latitude 51° 25'.

CHERUB, or **CHERUBIN**, a celestial spirit, which in the hierarchy is placed next to the seraphim. See the article **HIERARCHY**. The several descriptions which the scripture gives us of cherubims, differ from one another : but all agree in representing a figure composed of various creatures, as a man, an ox, an eagle, and a lion.

CHERUBIN was also the name of an ancient military order in Sweden, otherwise called the order of Seraphim. It was instituted by Magnus IV. and abolished by Charles IX. It took its denomination from the golden figures of cherubims, whereof the collar of the order was composed.

CHERUBICAL-HYMN, a hymn of great note in the ancient christian church. It was likewise called *trisagium*, or thrice holy, because the form of it was in these words, *Holy, holy, holy, Lord God of hosts*, &c.

The same form of words, with some alterations, is used to this day in our

church, making part of the hymn, *Te Deum laudamus*.

CHERVIL, *cherophyllum*, in botany, &c. See the article **CHÆROPHYLLUM**.

CHERWEL, a river, which, arising in Northamptonshire, runs southwards by Banbury, and unites its waters with those of the Isis, near Oxford.

CHESHAM, a market-town of Buckinghamshire, about nine miles south east of Aylesbury : west longitude 35', north latitude 51° 36'.

CHESHIRE, a maritime county of England, bounded by Staffordshire on the east, and by the Irish sea on the west : its chief commodities are salt and cheese, the last of which is much esteemed all over Britain.

CHESNUT-TREE, the english name of the *castanea* of botanists. See the article **CASTANEA**.

Next to oak, the chesnut-timber is most coveted by carpenters and joiners. It likewise makes the best stakes, pallisadoes, vine-props, hop-poles, &c. and is also proper for mill timber, and water-works. It is likewise fit for chests, tables, bedsteads, columns, &c.

As to the fruit of this tree, the biggest chesnuts are accounted best ; which should be kept a considerable time before they are used, by which means they become not only more savoury, but likewise more wholesome.

Horse-CHESNUT, in botany, the same with the hippocastanum of authors.

Scarlet-horse-CHESNUT, a name given to the *pavia* of botanists.

CHESS, an ingenious game, performed with different pieces of wood, on a board divided into sixty-four squares or houses ; in which chance has so small a share, that it may be doubted whether a person ever lost but by his own fault.

Each gamester has eight dignified pieces, *viz.* a king, a queen, two bishops, two knights, and two rooks ; also eight pawns : all which, for distinction sake, are painted of two different colours, as white and black.

As to their disposition on the board, the white king is to be placed on the fourth black house from the corner of the board, in the first and lower rank ; and the black king is to be placed on the fourth white house on the opposite or adversary's end of the board. The queens are to be placed next to the kings, on houses of their own colour. Next to the king and queen, on each hand, place the two bishops ;

bishops; next to them, the two knights; and last of all, on the corners of the board, the two rooks. As to the pawns, they are placed, without distinction, on the second rank of the house, one before each of the dignified pieces.

Having thus disposed the men, the onset is commonly begun by the pawns, which march straight forward in their own file, one house at a time, except the first move, when it can advance two houses, but never moves backwards: the manner of their taking the adversary's men, is sideways, in the next house forwards; where having captivated the enemy, they move forward as before. The rook goes forward or cross-ways through the whole file, and back again. The knight skips backward and forward to the next house, save one, of a different colour, with a sidling march, or aslope, and thus kills his enemies that fall in his way, or guards his friends that may be exposed on that side. The bishop walks always in the same colour of the field that he is placed in at first, forward and backward, aslope, or diagonally, as far as he lists. The queen's walk is more universal, as she takes all the steps of the before-mentioned pieces, excepting that of the knight; and as to the king's motion, it is one house at a time, and that either forward, backward, sloping, or sideways.

As to the value of the different pieces, next to the king is the queen, after her the rooks, then the bishops, and last of the dignified pieces comes the knight. The difference of the worth of pawns, is not so great as that of noblemen; only, it must be observed, that the king's bishop's pawn is the best in the field, and therefore the skilful gamester will be careful of him. It ought also to be observed, that whereas any man may be taken, when he falls within the reach of any of the adversary's pieces, it is otherwise with the king, who, in such a case, is only to be saluted with the word *check*, warning him of his danger, out of which it is absolutely necessary that he move; and, if it so happen that he cannot move without exposing himself to the like inconvenience, it is *check-mate*, and the game is lost.

CHESSE-TREES, two small pieces of timber with a hole in them, on each side of a ship, a little before her loof, for the main tackle to run through, and to which it is haled down.

CHEST, in commerce, a kind of measure,

containing an uncertain quantity of several commodities.

A chest of sugar, *v. g.* contains from ten to fifteen hundred weight; a chest of glass, from two hundred to three hundred feet; of castile soap, from two and an half to three hundred weight; of indigo, from one and an half to two hundred weight, five score to the hundred.

CHEST, in anatomy, the breast, or that part of the body which contains the heart and lungs. See the article **BREAST**.

CHEST-TRAPS, a kind of boxes or traps with single or double entries, for catching pole-cats, fitchets, martens, &c.

CHESTER, the capital city of Cheshire, situated sixteen miles south of Liverpool: west longitude 3° , north latitude $53^{\circ} 15'$. It is a bishop's see, and gives the title of earl to the prince of Wales.

New **CHESTER**, the capital of a county of the same name in Pensilvania, in north America, situated on the river Delaware, south of Philadelphia: west longitude 74° , north latitude $40^{\circ} 15'$.

Its harbour is fine and capacious, admitting vessels of any burden.

CHESTERFIELD, a market-town of Derbyshire, fifteen miles north of Derby: west long. $1^{\circ} 25'$, north lat. $53^{\circ} 20'$.

It gives the title of earl to a branch of the noble family of Stanhope.

CHEVAGE, or **CHIEFAGE**, a tribute of a certain sum of money, formerly paid by such as held lands in villainage to their lords, by way of acknowledgment, being a kind of poll, or head-money.

The word seems to have been used for a sum of money paid yearly to a man of power for his patronage and protection. The Jews allowed to live in England, long paid chevage, or poll-money, *viz.* three-pence *per* head: it was paid at Easter.

CHEVAL DE FRISE. See the article **CHEVAUX DE FRISE**.

CHEVALER, in the manege, is said of a horse when in passing upon a walk or a trot, his off fore leg crosses or overlaps the near fore-leg every second motion.

CHEVALIER, in a general sense, signifies a knight, or horseman: but,

CHEVALIER, in heraldry, signifies any cavalier, or horseman, armed at all points, by the Romans called *cataphractus eques*, now out of use, and only to be seen in coat-armour.

CHEVAUX DE FRISE, in fortification, a large joist, or piece of timber, about a foot in diameter, and ten or twelve in length,

length, into the sides whereof are driven a great number of wooden pins, about six feet long, armed with iron points, and crossing one another. See plate XLI. fig. 3.

The chief use of the *chevaux de frise*, is to stop up breaches, or to secure the avenues of a camp, from the inroads both of horse and foot. It is sometimes also mounted on wheels, with artificial fires, to roll down in an assault.

CHEVERON, or **CHEVRON**, in heraldry. See the article **CHEVRON**.

CHEVIOT, or **TIVIO**-HILLS, run from north to south through Cumberland, and were formerly the borders or boundaries between England and Scotland, where many a bloody battle has been fought between the two nations, one of which is recorded in the ballad of *Chevy-chase*.

CHEVISANCE, in law, denotes an agreement or composition, as an end or order set down between a creditor and his debtor, &c.

In our statutes, this word is most commonly used for an unlawful bargain, or contract.

CHEVRETTE, in the art of war, an engine for raising of guns or mortars into their carriages.

It is made of two pieces of wood, about four feet long, standing upright upon a third square piece: the upright pieces are about a foot asunder, and pierced with holes exactly opposite to each other, having an iron bolt, which being put thro' these holes higher or lower, at pleasure, serves with a hand-spike, which takes its poise over this bolt, to raise any thing by force. See plate XLI. fig. 4.

CHEVRON, or **CHEVERON**, in heraldry, one of the honourable ordinaries of a shield, representing two rafters of an house, joined together as they ought to stand; it was antiently the form of the priestesses head attire: some say, it is a symbol of protection; others, of constancy; others, that it represents knights spears, &c. It contains the fifth part of the field, and is figured as in plate XLI. fig. 5.

A chevron is said to be *abased*, when its point does not approach the head of the chief, nor reach farther than the middle of the coat; *mutilated*, when it does not touch the extremes of the coat, *cloven*, when the upper pieces are taken off, so that the pieces only touch at one of the angles; *broken*, when one branch is se-

parated into two pieces; *couched*, when the point is turned towards one side of the escutcheon; *divided*, when the branches are of several metals, or when metal is opposed to colour; *inverted*, when the point is turned towards the point of the coat, and its branches towards the chief.

Per **CHEVRON**, in heraldry, is when the field is divided only by two single lines, rising from the two base points, and meeting in the point above, as the chevron does.

CHEVRONED, is when the coat is filled with an equal number of chevrons, of colour and metal.

CHEVRONEL, a diminutive of chevron, and as such, only containing half a chevron.

CHEVRONNE, or **CHEVRONNY**, signifies the dividing of the shield several times chevron-wise.

CHEWING-BALLS, a kind of balls made of *asafœtida*, liver of antimony, bay-wood, juniper-wood, and pellitory of Spain; which, being dried in the sun, and wrapped in a linen-cloth, are tied to the bit of the bridle for the horse to chew: they create an appetite; and it is said, that balls of Venice-treacle may be used in the same manner with good success.

CHIAMPA, the south division of Cochin-China, a country of the East-Indies.

CHIAN EARTH, in pharmacy, one of the medicinal earths of the antients, the name of which is preserved in the catalogues of the *materia medica*, but of which nothing more than the name has been known for many ages in the shops.

It is a very dense and compact earth, and is sent hither in small flat pieces from the island whose name it bears, and in which it is found in great plenty at this time. It stands recommended to us as an astringent. They tell us, it is the greatest of all cosmetics, and that it gives a whiteness and smoothness to the skin, and prevents wrinkles, beyond any of the other substances that have been celebrated for the same purposes.

CHIAOUS, a word in the original Turkish signifying envoys, are officers to the number of five or six hundred in the grand signior's court, under the command of a *chiaous baschi*. They frequently meet in the grand vizier's palace, that they may be in readiness to execute his orders, and carry his dispatches into all the provinces of the empire. The *chiaous baschi* assists at the *divan*, and introduces those who have business there.

CHIAPA, the capital of a province of the same

same name in Mexico, situated about 300 miles east of Acapulco: west longitude 98° , north latitude $16^{\circ} 30'$.

CHIARASCO, a fortified town of Piedmont, in Italy, situated on the river Tanaro, twenty miles south-east of Turin, and subject to the king of Sardinia: east longitude $7^{\circ} 45'$, north latitude $44^{\circ} 40'$.

CHIARENZA, a port-town on the north-west coast of the Morea, opposite to the island Zant, in the Mediterranean, and subject to the Turks: east longitude $21^{\circ} 15'$, north latitude $37^{\circ} 35'$.

CHIARI, a town of Italy, in the province of Bresica, in the territories of Venice, about twenty-seven miles east of Milan: east long. $10^{\circ} 18'$, north lat. $45^{\circ} 30'$.

CHIARO-SCURO, among painters. See the article **CLARO-OBSCURO**.

CHIAVENNA, a town of the Grisons, situated north of the lake of Como, in Italy, and thirty-five miles south of Coire: east longitude $9^{\circ} 30'$, north lat. $46^{\circ} 15'$.

CHIAUSI, in the turkish affairs, officers otherwise called mutes, employed in executing persons of distinction; the orders for doing which, are sent them by the grand signior, wrapped up in a black cloth.

CHICANE, or **CHICANRY**, in law, an abuse of judiciary proceedings, tending to delay the cause, to puzzle the judge, or impose upon the parties.

CHICANE, in the schools, is applied to vain sophisms, distinctions and subtleties, which protract disputes and obscure the truth.

CHICHES, or **CHIC-PEASE**, the same with the cicor of botanists. See **CICER**.

CHICHESTER, the capital city of Sussex, situated fifty-two miles south-west of London, and twelve miles east of Portsmouth: west longitude 50° , north latitude $50^{\circ} 50'$.

It is a bishop's see, and sends two members to parliament.

New **CHICHESTER**, a port town of Pennsylvania, situated on the river Delaware, below Chester. See the article **CHESTER**.

CHICK, or **CHICKEN**, in zoology, denotes the young of the gallinaceous order of birds, especially the common hen. See the articles **GALLINACEOUS** and **HATCHING**.

Chickens, for two days after hatching, require no meat; but then it is proper to give them, for the first time, small oatmeal, some dry, and some steeped in milk, or else fine white bread crumbs;

and after they have got strength, curds, cheese parings, &c. It is also very wholesome to chop green chives among their meat, which will preserve them from the rye, and other diseases in the head: neither must they at any time be suffered to want clean water, since puddle-water is apt to breed the pip. To have fat crammed chickens, let them be cooped up when the dam forsakes them, and fed with wheat-meal in milk made into a dough, and steeped in milk: by using this diet, they will be fat in two weeks.

CHICKEN-POX. See the article *Small Pox*.

CHICK-WEED, *alsine*, in botany. See the article **ALSINE**.

Berry-bearing **CHICK-WEED**, the same with the cucubalus of botanists. See the article **CUCUBALUS**.

CHICKLING PEA, in botany, a name given to the lathyrus. See the article **LATHYRUS**.

CHICUITO, or **CUYO**, a province of South America, bounded by the province of La Plata on the north east, and by Chili on the west.

CHIDLEY, or **CHIMLEY**, a market-town of Devonshire, about eighteen miles north-west of Exeter: west longitude 4° , north latitude 51° .

CHIEF, a term signifying the head, or principal part of a thing or person. Thus we say, the chief of a party, the chief of a family, &c.

CHIEF, in heraldry, is that which takes up all the upper part of the escutcheon from side to side, and represents the ornaments used on a man's head. Plate **XLI**. fig. 6.

It is to take up just the third part of the escutcheon, as all other honourable ordinaries do, especially if they are alone on the shield; but if there be several of them, they must be lessened in proportion to their number, and the same holds when they are cantoned, attended and bordered upon by some other figures; then the painter or engraver may be allowed to bring them into a smaller compass, to the end that all that is represented about the ordinaries, may appear with some proportion and symmetry. Chiefs are very much varied, for they may be couvert, supported, crenellé, surmounted, abaissé, rempli, dentillé, engressé, canellé, danché, nebulé, fleurdelezée, fleuronné, vair, echequeté, lozangé, burellé, patré, fretté, gironné, chaperonné, chappé, mantelé, emmanché, chauffé, vestu, or revestu. See the

the articles **COUVERT**, **SUPPORTED**, &c. *In* **CHIEF**, imports something borne in the chief part or top of the escutcheon.

CHIEF LORD, the feudal lord, or lord of an honour on whom others depend. See the articles **LORD** and **HONOUR**.

Holding in **CHIEF**. See the articles **CAPITE** and **TENURE**.

CHIEF justice of the king's-bench and common pleas. See the article **JUSTICE**.

CHIEF PLEDGE, the same with headborough. See the article **HEADBOROUGH**.

CHIEF POINT. See the article **POINT**.

CHIEF TAIN, denotes the captain, or chief, of any class, family, or body of men: thus, the chieftains, or chiefs, of the highland clans, were the principal noblemen or gentlemen of their respective clans.

CHIERI, a fortified town of Piedmont, in Italy, situated eight miles east of Turin: east long. $7^{\circ} 45'$, north latit. $44^{\circ} 50'$.

CHILBLAINS, in medicine, the same with what is otherwise called *perniones*. See the article **PERNIONES**.

CHILD, a term of relation to parent. We say, natural child, legitimate child, posthumous child, &c.

Child, *in* *laws*, in the civil law, denotes one under seven years of age.

The custom has prevailed almost in all countries, and in all ages, of wrapping a young child in swaddling bands, lest its limbs, being then tender and flexible, should happen to be distorted. The Spartan nurses, however, were so careful and experienced, that without using swaddling bands, their children were straight and well proportioned. Moreover, the Lacedemonians, in the management of their children, were at great pains to use them to any sort of meat, and sometimes to bear the want of it; not to be afraid in the dark, or to be alone; nor to be froward, peevish, and crying, as children generally are, often thro' the impertinent care and fondness of those who look after them.

Dr. Harris, in a treatise of the acute diseases of children, takes them all to arise from the humours of the *primæ viæ* growing sour and degenerating into acidities, which is confirmed from their sour belchings and dejections. Hence all that is required to cure them, is to combat this acidity, which is to be effected two ways; by dissolving it to be evacuated, and by actual evacuation by rhubarb, and other gentle purgatives.

In the first case, no sudorifics or cordials

are to be used, but in lieu of them, crab's eyes and claws, oyster-shells, egg-shells, chalk, coral, &c. but above all these, he prefers old shells that have lain long on the sea shore exposed to the heat of the sun. Children are very obnoxious to the aphthæ, scabby eruptions, difficult dentition, epilepsy, worms, and rickets; for the cure of which, see each of these under its proper head. See also the articles **INFANT**, **WEANING**, &c. Lord Bacon assigns for the reason of children's not being hairy, that they are more perspirable than adult persons.

CHILD-BED, } See **DELIVERY**.

CHILD-BIRTH, }

CHILD-WIT, a fine imposed upon a bondwoman, got with child without the consent of her lord. Within the manor of Writtle, in the county of Essex, every reputed father of a base child pays to the lord 3 s. 4 d. for a fine; and this penalty extends to free as well as bond women.

Charity **CHILDREN**. See **CHARITY-SCHOOLS** and **HOSPITAL**.

CHILDERMAS-DAY, or **INNOCENT'S-DAY**, an anniversary held by the church, on the 28th of December, in commemoration of the children at Bethlehem, massacred by order of Herod.

CHILI, a province of South America, bounded by Peru on the north, by the province of La Plata on the east, by Patagonia on the south, and by the Pacific ocean on the west; lying between 25° and 45° south lat. and between 75° and 85° west longit. But some comprehend Patagonia and Chili, extending it to Cape Horn, in $57^{\circ} 30'$ south latitude.

CHILIAD, denotes a thousand of any things, ranged in several divisions, each whereof contains that number.

CHILIARCHA, or **CHILIARCHUS**, in antiquity, a military officer, who had the command of a thousand men.

CHILMINAR, **CHELMINAR**, or **TCHELMINAR**, the most beautiful piece of architecture remaining of all antiquity, being the ruins of the famous palace of Persepolis, to which Alexander the great, in a drunken fit, set fire, at the instigation of Thais the courtesan: the word comes from the persian *tcheble minar*, that is to say, forty towers.

Don Garcias de Silva Figueroa, Pietro della Valle, Sir John Chardin, and Le Brun have been very particular in describing these ruins.

There appear (say they) the remains of near fourscore columns, the fragments of

of which are at least six feet high ; but there are only nineteen can be called entire, with another detached from the rest, about an hundred and fifty paces : a rock of hard black marble serves as a foundation to the edifice : the first plan of the house is ascended to by ninety-five steps, all cut in the rock ; the gate of the palace is about twenty feet wide, with the figure of an elephant on one side, and that of a rhinoceros on the other, thirty feet high, and both of polished marble : near these animals there are two columns, and not far from thence the figure of a pegasus. After passing this gate, are found fragments of magnificent columns in white marble, the smallest of which are fifteen cubits high, the largest eighteen, having forty flutings three full inches wide each ; from whence we may judge of their thickness and other proportions. Near the gate is seen an inscription on a square piece of black marble, containing about twelve lines ; the characters are of an extraordinary figure, resembling triangles, or pyramids : besides this there are other inscriptions, the characters of which resemble the hebrew, chaldaic, syriac, others the arabic, or persian ; and others, in fine, the greek characters. Dr. Hyde, who hath explained the greek inscription, by supplying some words that are effaced, observes that the inscriptions are engraved very negligently, and perhaps by some soldiers ; or, if they are the work of an engraver, he thinks that he was from Palmyra, and consequently that they are in the phœnician tongue : he adds, that as they are in praise of Alexander, they were probably done in the time of that conqueror.

CHILTERN, a chain of chalky hills, running from east to west through Buckinghamshire.

CHIMÆRA, or **CHIMERA**. See the article **CHIMERA**.

CHIMÆRA, in geography, a port-town of Turkey, in Europe, situated at the entrance of the gulph of Venice, in the province of Epirus, about thirty-two miles north of the city Corfu, near which are the mountains of Chimæra, which divide Epirus from Thessaly: east longitude $25^{\circ} 40'$, and north latitude $40^{\circ} 20'$.

CHIMAY, the name of a great lake, lying in the province of Acham, between the East-Indies and China.

CHIMAY is also the name of a town of Hainaut, in the french Netherlands, about

twenty miles south of Charleroy : east lon. $4^{\circ} 20'$, and north lat. $50^{\circ} 6'$.

CHIMERA, or **CHIMÆRA**, a fabulous monster which the poets feign to have the head of a lion, the body of a goat, and the tail of a dragon ; and add, that this odd beast was killed by Bellerophon. The foundation of the fable was, that in Lycia there was a burning mountain, or vulcano, of this name ; that the top of this mountain was seldom without lions, nor the middle, which had very good grafs, without goats ; that serpents bred at the bottom, which was marshy ; and that Bellephoron rendered the mountain habitable.

By a chimera, among the philosophers is understood a mere creature of the imagination, composed of such contradictions and absurdities as cannot possibly any where exist but in thought.

CHIMES of a clock, a kind of periodical music, produced at equal intervals of time, by means of a particular apparatus added to a clock.

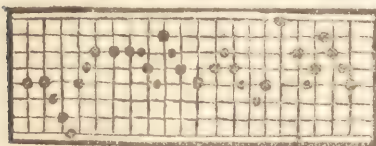
In order to calculate numbers for the chimes, and adapt the chime-barrel, it must be observed that the barrel must turn round in the same time that the tune it is to play requires in singing. As for the chime-barrel, it may be made up of certain bars that run athwart it, with a convenient number of holes punched in them to put in the pins that are to draw each hammer ; and these pins, in order to play the time of the tune rightly, must stand upright, or hang down from the bar, some more, some less. To place the pins rightly, you may proceed by the way of changes on bells, *viz.* 1, 2, 3, 4 ; or or rather make use of the musical notes. Observe what is the compass of your tune, and divide the barrel accordingly from end to end : thus in the following examples each of these tunes are eight notes in compass, and therefore the barrel is divided into eight parts : these divisions are struck round the barrel, opposite to which are the hammer-tails ; but when two notes of the same sound come together in a tune, there must be two hammers to that bell to strike it. Then you are to divide it round about, into as many divisions as there are musical bars, semibreves, minims, &c. in your tune ; thus the hundredth Psalm tune hath twenty semibreves, the first note of it is also a semibrief, and therefore on the chime-barrel must be a whole division from 5 to 5 ; as may be understood by conceiving the

the surface of a chime-barrel to be represented by the following tables, as if the cylindrical superficies of the barrel were stretched out at length, or extended on a plane; and then such a table so dotted or divided, if it were to be wrapped round the barrel, would shew the places where all the pins are to stand in the barrel: for the dots turning about the table, are the places of the pins that play the tunes.

The notes of the hundredth Psalm.



A table for dividing the chime-barrel of the hundredth Psalm.



If you would have your chimes complete, you ought to have a set of bells to the gamut notes, so as that each bell having the true sound of *fol*, *la*, *mi*, *re*, you may play any tune, with its flats and sharps, nay even the bass and treble, with one barrel. And by setting the names of

your bells at the head of any tune, you may transfer that tune to your chime-barrel, without any skill in music: but observe that each line in the music is three notes distant, that is, there is a note between each line, as well as upon it

CHIMIN, or **CHEMIN**, in law, denotes a road, or way. Hence,

CHIMINAGE is a toll for wayfaring, or passage, through a forest.

CHIMNEY, in architecture, a particular part of a house, where the fire is made, having a tube or funnel to carry away the smoke.

The parts of the chimney are the jambs, or sides, coming out perpendicularly, sometimes circularly, &c. from the back; the mantle-tree, which rests on the jambs; the tube, or funnel, which conveys away the smoke; the chimney-piece, or moulding, which is on the fore side of the jambs, over the mantle-tree; and the hearth, or fire-place.

The rules for building chimneys are, 1. That no timber be laid within twelve inches of the fore side of the chimney-jambs. 2. That all the joists on the back of any chimney be laid with a trimmer. 3. That no timber be laid within the funnel of any chimney.

The proportion for CHIMNIES. Palladio lays down the following proportions for the breadth and depth on the inside, and for their height to their mantle-tree.

| Chimnies in | Breadth. | Height. | Depth. |
|-----------------------|---------------------------------|----------------------------|----------------------------|
| Halls | 6, 7, or 8 feet | 4 $\frac{1}{2}$ or 5 feet. | 2 $\frac{1}{2}$ or 3 feet. |
| Chambers | 5 $\frac{1}{2}$, 6, or 7 feet. | 4 or 4 $\frac{1}{2}$ feet. | 2 or 2 $\frac{1}{2}$ feet. |
| Studies and wardrobes | 4, 4 $\frac{1}{2}$, or 5 feet. | 4 or 4 $\frac{1}{2}$ feet. | 2 or 2 $\frac{1}{2}$ feet. |

Nevertheless in these points a workman should be rather governed by the modern fashions, than by the dictates of an ancient architect.

Wolfius directs that the breadth of the aperture at the bottom be to the height as 3 to 2, and to the depth as 4 to 2.

In small apartments the breadth is 3 feet, in bed-chambers 4, in larger apartments 5, in small banqueting rooms 5 $\frac{1}{2}$, in larger 6; but the height should never exceed 2 $\frac{1}{2}$, lest there be too much room for air and wind, and the smoke be driven into the room: nor must the height be too little, lest the smoke miss its way and be choaked at first setting out. The same author advises to have an aperture thro' which the external air may, on occasion,

be let into the funnel, to drive up the smoke, which the internal air would otherwise be unable to do.

Some make the funnel twisted, to prevent the smoke's descending too easily; but a better expedient is, to make the funnel narrower at bottom than at top; the fire impelling it up more easily, when contracted at the bottom; and in mounting it finds more space to disengage itself, and therefore will have less occasion to return into the room.

Mr. Felibien directs, that the mouth of the tube, or that part joined to the chimney back, be made a little narrower than the rest, that if the smoke be repelled downwards, it may be prevented from getting into the room by this obstacle.

To

To prevent smoking chimnies, Mr. Lucas advises to leave two holes, or make two pipes in the chimnies, one over the other on each side, one sloping upwards, the other downwards; through these holes or pipes, says he, the smoke will easily pass out of any funnel which way soever the wind blows.

Philip d'Orme advises to provide a hollow brass-ball, of a reasonable capacity, with a small hole on one side, for the putting in water; that this ball be hung up in the chimney, at a little height above the greatest flame (with the hole upwards) by an iron wire that shall traverse the chimney, a little above the mantle-tree, where, as the water grows hot, it will rarefy, and drive through the hole or aperture in a vapoury steam, that will throw up the smoke, which would otherwise linger in the funnel.

Others place a kind of moveable vane or weather-cock on the top of the chimney, so that what way soever the wind comes, the aperture of the chimney will be screened, and the smoke have free egress. But the best prevention of a smoking chimney seems to be in the proper placing of the doors of a room, the apt reclination of the back, and the due gathering of the wings and breast of a chimney.

CHIMNEY-HOOKS are hooks of steel or brass put into the jambs of chimnies, one into each jamb, for the handle of the fire-tongs and fire-pan to rest in.

CHIMNEY-JAMBS, the sides of a chimney, sometimes standing out perpendicularly, sometimes circularly, from the back, on the extremities whereof the mantle-tree rests.

CHIMNEY-MONEY, or **HEARTH-MONEY**, a tax imposed by statute 24 Car. II. expressing that every fire-hearth and stove of every dwelling or other house within England and Wales, except such as pay not to church and poor, shall be chargeable with two shillings *per annum*, payable at Michaelmas and Ladyday, to the king and his heirs. This tax being much complained of, as burdensome to the people has been abolished, and instead of it the window-tax was granted.

CHIMNEY-PIECE, a composition of certain mouldings of wood or stone; standing on the fore side of the jambs, and coming over the mantle-tree.

CHIMPANZEE, in zoology, the name of a species of angola-monkey, very much resembling the human shape; the males of which are so bold and fierce as to fight

an armed man: they naturally walk erect, and are said to set upon and ravish the negroe women, when they meet them in the woods.

CHINA, including Chinese Tartary, a large empire, situated between 95° and 135° east longitude, and between 21° and 55° north latitude, being accounted two thousand miles in length, and one thousand five hundred in breadth; it is bounded by Russian Tartary on the north, by the Pacific ocean on the east and south, and by Tonquin, Tibet, and the territories of Russia on the west. It is usually divided into sixteen provinces, which will be described in their alphabetical order. In these provinces there are computed to be one hundred and fifty-five capital cities, one thousand three hundred and twelve of the second rank, two thousand three hundred and fifty-seven fortified towns, and upwards of ten millions of families, which may amount to about fifty millions of people.

The principal commodities of this country are silk, tea, china-ware, japan-ware, and gold dust; of all which the maritime states of Europe import great quantities, sending them silver in return.

CHINA-CHINA, in pharmacy, the same with quinquina. See **QUINQUINA**.

CHINA-ROOT, in pharmacy, a medicinal root, brought both from the East and West-Indies, thence distinguished into oriental and occidental; it is the root of the plant smilax. See **SMILAX**.

The oriental root is brought to us in large pieces, from several parts in the East-Indies. The occidental is brought from Peru and the Brasils. This root is to be chosen hard and firm, of a faint red colour, free from worms and rottenness, and such as on chewing fills the mouth with a soft unctuous moisture.

This root is a sudorific and an attenuant, and is therefore calculated to do great service in many chronic cases: it is best given in decoction, and is usually combined with sarsaparilla and guaiacum; an ounce of it, sliced thin, is the usual proportion to a quart.

CHINA-WARE, a fine kind of earthen-ware, otherwise called porcelain. See the article **PORCELAIN**.

CHINCA, a port-town of Peru, in South-America, situated in an extensive valley, on a river of the same name, about sixty miles south of Lima: west longitude 76° , and south latitude 13° .

CHIN-COUGH, a convulsive kind of cough,

cough, which children are chiefly subject to, proceeding from a tough, vilcid, and acid matter, lodged in the coats of the stomach, which when they vomit, they are easy for a time.

Sometimes this disorder proceeds from a more dangerous cause, which is a certain salt communicated to tender bodies by means of the air, which coagulates the lymph, and which growing sharp and stagnating, affects the larynx.

In the cure of this cough, particular care must be had to the stomach, and without a vomit the cure can hardly be effected. Sperma ceti in broth is of excellent use; but by bleedings and repeated purges this cough may be cured, without other means; yet the milder cathartics ought here to take place. Drinks and liquid aliments should also be taken in less quantity than usual.

CHINE, in the manege, the same with a horse's back bone.

CHINESE, in general, denotes any thing belonging to China. See **CHINA**.

It is observed by some, that the chinese language has no analogy with any other language in the world: it only consists of three hundred and thirty words, which are all monosyllables, at least they are pronounced so short that there is no distinguishing above one syllable or sound in them; but the same word, as pronounced with a stronger or weaker tone, has different significations; accordingly when the language is accurately spoke, it makes a sort of music, which has a real melody, that constitutes the essence and distinguishing character of the chinese tongue.

As to the chinese characters, they are as singular as the language; the chinese have not, like us, any alphabet, containing the elements, or, as it were, the principles of their words: instead of an alphabet they use a kind of hieroglyphics, whereof they have above eighty thousand.

CHINEY, a city of the austrian Netherlands, on the confines of the bishopric of Liege, about twelve miles south east of Namur: east longitude 5°, and north latitude 50° 20'.

CHINON, a town of France, in the province of the Orleanois, about twenty three miles south-west of Tours: east longitude 20', and north latitude 47°, 15'.

CHIO, **CHIOS**, **XIO**, or **SCIO**, an asiatic island, lying near the coast of Ionia, in Natolia, or lesser Asia, about one hundred

miles west of Smyrna. It is called by the Turks Sakisaduci, and is about one hundred miles in circumference; being chiefly inhabited by christians of the greek church, who are said to have three hundred churches in the island.

CHIO is also the capital of the above island, situated on the east coast: east longitude 27°, and north latitude 38°.

CHIONANTHUS, **SNOW-DROP-TREE**, in botany, a genus of the diandria-monogynia class of plants: the corolla consists of a single petal, and is divided into four parts; the tube is very short, no longer than the cup, and is petalous; the limb is divided into four extremely long segments, which are erect, acute, of a linear figure, and somewhat uneven; the fruit is a roundish unilocular berry, containing a single striated osicle for seed.

CHIOZZO, or **CHIOGGIO**, a town on an island of the same name, in the gulph of Venice, by which there is a passage into the Lagunes, situated about twelve miles south of the city of Venice.

CHIPPENHAM, a borough town in Wiltshire, about twenty-two miles north-west of Salisbury: west longitude 2° 12', and north latitude 51° 25'.

It sends two members to parliament.

CHIPPING, a phrase used by the potters and china-men to express that common accident both of our own stone and earthen ware, and the porcelain of China, the flying off of small pieces, or breaking at the edges. Our earthen wares are particularly subject to this, and are always spoiled by it before any other flaw appears in them. Our stone wares escape it better than these, but less than the porcelain of China, which is less subject to it than any other manufacture in the world. The method by which the Chinese defend their ware from this accident, is this: they carefully burn some small bambou canes to a sort of charcoal, which is very light, and very black; this they reduce to a fine powder, and then mix it into a thin paste, with some of the varnish which they use for their ware: they next take the vessels when dried, and not yet baked, to the wheel, and turning them softly round, they, with a pencil dipt in this paste, cover the whole circumference with a thin coat of it: after this, the vessel is again dried, and the border made with this paste appears of a pale greyish colour when it is thoroughly dry. They work on it afterwards in the common way covering both

both this edge and the rest of the vessel with the common varnish. When the whole is baked on, the colour given by the ashes disappears, and the edges are as white as any other part; only when the baking has not been sufficient, or the edges have not been covered with the second varnishing, we sometimes find a dusky edge, as in some of the ordinary thick tea-cups.

It may be a great advantage to our English manufacturers to attempt something of this kind. The willow is known to make a very light and black charcoal; but the elder, tho' a thing seldom used, greatly exceeds it. The young green shoots of this shrub, which are almost all pith, make the lightest and the blackest of all charcoal; this easily mixes with any liquid, and might be easily used in the same way that the Chinese use the charcoal of the bambou cane, which is a light hollow vegetable, more resembling the elder shoots than any other English plant. It is no wonder that the fixed salt and oil contained in this charcoal should be able to penetrate the yet raw edges of the ware, and to give them in the subsequent baking a somewhat different degree of vitrification from the other parts of the vessel, which, tho' if given to the whole, it might take off from the true semivitrified state of that ware, yet at the edges is not to be regarded, and only serves to defend them from common accidents, and keep them entire.

The Chinese use two cautions in this application; the first in the preparation; the second in the laying it on. They prepare the bambou canes for burning into charcoal, by peeling off the rind. This might easily be done with our elder shoots, which are so succulent, that the bark strips off with a touch. The Chinese say, that if this is not done with their bambou, the edges touched with the paste will burst in the baking: this does not seem indeed very probable; but the charcoal will certainly be lighter made from the peeled sticks, and this is a known advantage. The other caution is, never to touch the vessels with hands that have any greasy or fatty substance about them; for if this is done, they always find the vessel crack in that place.

CHIPPING, or MUCH-WICCOMB, a borough-town of Buckinghamshire, about ten miles south of Aylesbury: west longitude 42°, and north latitude 51° 35'. It sends two members to parliament.

CHIRAGRA, in medicine, a term used to denote the gout in the hand or wrist. See the article GOUT.

CHIROGRAPH, *chirographum*, in the time of the Saxons, signified any public instrument of gift or conveyance, attested by the subscription and crosses of witnesses. Formerly, when they made a chirograph, or deed, which required a counter part, they ingrossed it twice upon one piece of parchment, counterwise, having a space between, wherein was wrote CHIROGRAPH, through the middle whereof the parchment was cut, sometimes straight, sometimes indentedly, and a moiety given to each of the parties.

CHIROGRAPH was also antiently used for a fine: the manner of ingrossing the fines, and cutting the parchment in two pieces, is still retained in the chirographer's office.

CHIROGRAPHER *of fines*, an officer in the common pleas, who ingrosses fines acknowledged in that court, into a perpetual record (after they are examined and passed by other officers) and writes and delivers the indentures thereof to the parties, one for the buyer, and another for the seller. He makes a third indented piece, containing also the effect of the fine, which he delivers over to the custos brevium, and is called the foot of the fine. The chirographer also, or his deputy, proclaims all the fines in the court every term, according to the statutes, and then repairing to the office of the custos brevium, there endorses the proclamations on the backside of the foot thereof, keeping withal the writ of covenant, and also the note of the fine.

CHIROGRAPHY, *χειρογραφία*, a writing under one's own hand.

CHIROMANCY, *χειρομαντλία*, a species of divination, drawn from the different lines and lineaments of a person's hand; by which means, it is pretended the inclinations may be discovered.

CHIRONIA, in botany, a genus of the pentandria-monogynia class of plants: the corolla is formed of a single petal, and is equal; the tube is roundish, and of the size of the cup; the limb is divided into five equal oval segments, and patent; the fruit is of an oval figure, and contains two cells; the seeds are numerous and small.

CHIRONOMY, *chironomia*, in antiquity, the art of representing any past transaction by the gestures of the body, more especially by the motions of the hands: this made a part of liberal education; it had

had the approbation of Socrates, and was ranked by Plato among the political virtues.

CHIROTONY, *chirotonia*, among ecclesiastical writers, denotes the imposition of hands used in conferring priestly orders. See the article **ORDINATION**. However, it is proper to remark, that chirotony originally was a method of electing magistrates, by holding up of hands.

CHIRVAN, a province of Persia, lying on the western coast of the Caspian sea.

CHIRURGEON, the same with surgeon. See the article **SURGEON**.

CHIRURGERY, or **SURGERY**. See the article **SURGERY**.

CHISLEY-LAND, in agriculture, a soil of a middle nature between sandy and clayey land, with a large admixture of pebbles.

CHISSEL, an instrument much used in carpentry, masonry, joinery, sculpture, &c. and distinguished according to the breadth of the blade into half-inch chisels, quarter-inch chisels, &c. They have also different names according to the different uses to which they are applied; as, 1. The former, used by carpenters, &c. just after the work is scribed: it is struck with a mallet. 2. The paring-chisel, which is used in paring off the irregularities made by the former: this is pressed with the workman's shoulder. 3. The skew-former cleanses acute angles with the point of its narrow edge. 4. The mortice-chisel, used in cutting deep square holes in wood, for mortices: it is narrow, but thick and strong, to endure hard blows. 5. Socket-chisels, having their shank made with a hollow socket at top, to receive a strong wooden sprig fitted into it with a shoulder. 6. Ripping-chisel, having a blunt edge, with no bevel, used in tearing two pieces of wood asunder. And, 7. The gouge. See the article **GOUGE**.

CHITOR, a city of Piedmont, in Italy, situated on the river Po, about ten miles north of Turin: east longitude $7^{\circ} 35'$, and north latitude $45^{\circ} 12'$.

This is also the name of a province and city in the hither India, subject to the mogul: east longitude 76° , and north latitude $23^{\circ} 30'$.

CHITTING, among gardeners, is said of a seed when it first puts forth its slender roots.

CHIVALRY, in law, is a tenure of ser-

vice, whereby the tenant is bound to perform some noble or military office to his lord; and is either regal, when held only of the king; or common, such as may be held of a common person as well as the king: the former is properly called *serjeanty*, and the latter *escuage*. See the articles **SERJEANTY** and **ESCUAGE**. A statute of Charles II. abolishes all tenures by chivalry, in capite, &c. and ordains that all tenures shall be construed to be free and common soccage.

CHIUDEENDO, in music, is the ending or finishing: thus we say, *chiudendo col ritornello*, *col aria*, to end with a *ritornello*, or with an air. See the article **RITORNELLO**.

CHIVES, among gardeners, denote the same with the *antheræ* or apices of botanists. See the article **ANTHERÆ**.

Some also call the whole stamina of plants *chives*. See the article **STAMINA**.

CHIVES is also the english name of a very small species of onion. See **ONION**.

CHIUSI, a city of Italy, in the duchy of Tuscany, situated on the confines of the pope's territories, about thirty-five miles south-east of Sienna: east of longit. 13° , and north latitude 43° .

CHLÆNA, in antiquity, a winter-garment, worn over the tunica.

It was likewise used as a covering for a bed.

CHLAMYS, in antiquity, a military habit worn by the antients over the tunica. It belonged to the patricians, and was the same in the time of war, that the toga was in the time of peace. This sort of gown was called *pista*, from the rich embroidery with figures in phrygian-work; and *purpurea*, because the ground-work was purple. The *chlamydes* of the emperors were all purple, adorned with a golden or embroidered border.

CHLOROSIS, in medicine, a disease commonly called the green-sickness, incident to girls, maids, widows, and even wives whose husbands are deficient.

Various are the symptoms of this disorder, as a feverish habit of body, vomiting, difficulty of breathing, and longing for unnatural foods.

As to the cure, Altruc recommends borax, mineral waters, electuaries made of preparations of steel, the martial flowers, &c. *asa foetida*, aloes and myrrh, emollient baths, frequent evacuations, and exercise; but above all, matrimony.

CHOCOLATE, in commerce, a kind of paste

paste, or cake, prepared of certain drugs, the basis of which is the cacao nut. See the article CACAO.

The Indians, in their first making of chocolate, used to roast the cacao in earthen pots, and having afterwards cleared it of the husks, and bruised it between two stones, they made it into cakes with their hands. The Spaniards improved this method: when the cacao is properly roasted, and well cleaned, they pound it in a mortar, to reduce it into a coarse mass which they afterwards grind on a stone, till it be of the utmost fineness: the paste being sufficiently ground, is put quite hot into tin moulds, in which it congeals in a very little time. The form of these moulds is arbitrary; the cylindrical ones, holding two or three pounds, are the most proper, because the bigger the cakes are, the longer they will keep. Observe, that these cakes are very liable to take any good or bad scent, and therefore they must be carefully wrapt up in paper, and kept in a dry place. Complaints are made, that the Spaniards mix with the cacao-nuts too great a quantity of cloves and cinnamon, besides other drugs without number, as musk, amber-grise, &c. The grocers of Paris use few or none of these ingredients; they only choose the best nuts, which are called caracca, from the place from whence they are brought, and with these they mix a very small quantity of cinnamon, the freshest vanilla, and the finest sugar, but very seldom any cloves. Among us in England, the chocolate is made of the simple cacao, excepting that sometimes sugar, and sometimes vanilla is added.

Chocolate ready made, and cacao-paste, are prohibited to be imported from any part beyond the seas. If made and sold in Great-Britain, it pays inland duty 1 s. 6 d. *per lb* averdupoise: it must be inclosed in papers containing one pound each, and produced at the excise-office, to be stamped. Upon three days notice given to the officer of excise, private families may make chocolate for their own use, provided no less than half an hundred weight of nuts be made at one time.

CHOENIX, *χηνίξ*, in antiquity, signifies fetters in which the legs of criminals were made fast, as we are informed by Aristophanes, in his *Plutus*, where speaking of an insolent slave, he saith,

οὐ κηνίξαι δὲ σε βέλουσιν

10, 10' τὰς χηνίξας ἢ τὰς πεδάς πεθεύσαι.

That is as much as to say, Your legs are itching for the stocks.

CHOENIX was also a dry measure, containing a forty-eighth part of a medimnus, or six bushels. Hence the celebrated proverb of Pythagoras, *Super chænice nefedeas*; which is differently interpreted. See Plutarch in *Symposiacis*, Dem. Byz. apud Athenæum, &c.

CHOIR, that part of the church or cathedral where choristers sing divine service: it is separated from the chancel, where the communion is celebrated; and also from the nave of the church, where the people are placed; the patron is said to be obliged to repair the choir of the church. It was in the time of Constantine that the choir was separated from the nave. In the XIIth century, they began to inclose it with walls; but the ancient balustrades have been since restored, out of a view to the beauty of architecture.

The choir in nunneries, is a large hall adjoining to the body of the church, separated by a grate, where the nuns sing the office.

CHOLAGOGUES, medicines which purge the bile.

Of this kind are manna, cassia, roses, fena, rhubarb, aloes, jalap, scammony, &c. There is some reason to think that antimonial medicines act more powerfully on the bile than any other remedies.

CHOLEDOCHUS, in anatomy, is a common epithet for the gall-bladder, the hepatic vessels, and the common gall-duct which communicates with the duodenum.

CHOLER, or BILE. See BILE.

CHOLERA MORBUS, in medicine, the same with the bilious fever. See BILIOUS.

CHOLIC, or rather COLIC. See COLIC.

CHOMELIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of one infundibuliform or funnel-fashioned petal, the limb of which is divided into five oval and reflex segments: the fruit is a roundish bilocular berry, containing four seeds, gibbous on one side, and angulated on the other.

CHONAT, a town of Hungary, situated on the river Merish, about thirteen miles east of Segedon, and subject to the house of Austria: east longitude 21° 20', and north latitude 46° 22'.

CHONDRILLA, in botany, a genus of the syngenesia-polygamia-æqualis class of plants, the compound flower of which

is

is imbricated and uniform, the proper one *monopetalous*, ligulated, linear, truncated, and four or five times dentated; there is no pericarpium; the cup is of a cylindrical figure, containing solitary, ovated, compressed, scabrous seeds.

CHONDROGLOSSUM, in anatomy, the name of a pair of muscles arising from the cartilaginous process of the os hyoides, and meeting in the base of the tongue, where they are inserted: this pair is not found in all subjects.

CHONDROPTERYGII, in ichthyology, one of the five orders or subdivisions of fishes, the characters of which are these: the rays of the fins are cartilaginous, differing in little from the membrane that constitutes the fin; they have likewise cartilages instead of bones; and the mouth is for the most part situated in the lower part of the body.

Of this order there are only four genera, *viz.* the *petromyzon*, *accipenser*, *squalus*, and *raja*. See the articles *PETROMYZON*, *ACCIPENSER*, &c.

CHOP-CHURCH, a nick-name given to parsons who make a practice of exchanging benefices.

It is used by an old statute in the sense of a trade; but Brooke, in his *Abridgment*, says it was only permissible by law.

CHOPIN, or **CHOPINE**, a liquid measure, used both in Scotland and France, and equal to half their pint. See the articles *PINT* and *MEASURE*.

CHORAGIUM, in antiquity, denotes all the theatrical habits, and other implements belonging to the chorus, and likewise the place where they were kept.

CHORAGIUM likewise signified the exequies of a young woman, who died before she was marriageable.

CHORAGUS, in antiquity, the principal person or leader in the chorus.

The choragus hired the players, singers, dancers, &c. at the celebration of public festivals; in which sense he answers to our manager. See the article *CHORUS*.

CHORASSAN, a province of Persia, on the north-east, adjoining to Ussac Tartary; this was the antient Baëtria, and the native country of the late Kouli Kan.

CHORD, in geometry, a right line drawn from one part of an arch of a circle to the other. Hence,

CHORD of an arch is a right line joining the extremes of that arch: thus *AB* is the chord of the arch *AEB*, plate *XLI*. fig. 7.

CHORD of the complement of an arch, the

chord that subtends the rest of the arch, or so much as makes up the arch a semi-circle.

It is demonstrated in geometry, that the radius *CE* (*ibid.*) bisecting the chord *BA* in *D*, does also bisect the arch in *E*, and is perpendicular to the chord *AB*. From hence may be deduced these problems: 1. To make a circle pass through any three given points, not lying in a right line. 2. To find the center of any circle. 3. To complete a circle from an arch given. 4. To describe a circle about any triangle given.

Line of CHORDS, one of the lines of the sector and plane scale. See its description and use under *SECTOR* and *SCALE*.

CHORDS or **CORDS**, in music, are strings, by the vibration of which the sensation of sound is excited, and by the divisions of which the several degrees of tune are determined. See *TUNE* and *SOUND*.

The chords of musical instruments are ordinarily made of cat-gut; though some are made of brass or iron wire, as those of harpichords, spinnets, &c. Chords of gold-wire in harpichords, would yield a sound almost twice as strong as those of brass; and those of steel a feebler sound than those of brass, as being both less heavy and less ductile.

Mr. Perrault observes, that of late they have invented a way of changing the chords, to render their sounds more strong without altering the tone.

The sixth chord of bass-viol, and the tenth of large theorbo-lutes, consist of fifty threads, or guts, some of which are an hundred feet long, twisted and polished with equisetum, or horse tail.

The rules for dividing chords so as to constitute any given interval, are as follow: 1. To assign such part of a chord *AB* as shall constitute any concord; for example, a fifth, or any other interval, with the whole cord; divide the line *AB* into as many parts as the greatest number of the interval has units; thus the fifth being 2:3, the line is divided into

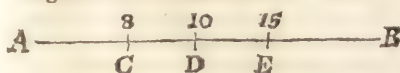


three parts: of these take as many as the lesser number 2 = *AC*, then is *AC* the part sought; that is, two lines whose lengths are to each other as *AB* to *AC*, make a fifth. Hence if it be required to find several different sections of the line *AB*, for instance, such as shall be octave, fifth, or third greater; reduce the given ratios



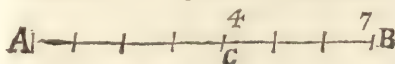
ratios 1:2, 2:3, and 4:5 to one fundamental, the series becomes 30:24, 20:15, the fundamental is 30, and the sections sought are 24 the third greater, 20 the fifth, and 15 the octave.

2. To find several sections of a line A, that from the least part gradually to the whole, shall contain a given series of intervals in any given order, *viz.* so as the least to the next greater contain a third greater; that to the next greater, one fifth; and that to the whole, an octave. Reduce the three ratios 4:5, 2:3, and 1:2 to one series; hence we have 8:10, 15:30. Divide the line into the number of parts of the greatest extreme of the series, *viz.* 30, and you have the sections sought of the points of division, answering the several numbers of the series, *viz.*



at the points C, D, and E; so as A C, to A D is a third, A D to A E a fifth, A D to A B an octave.

3. To divide a line A B into two parts, to contain betwixt them any interval, *e. g.* a fourth. Add together the numbers containing the ratio of the interval, for example 3:4, and divide the line into as many parts as the sum, 7; the point of division answering to any of the given numbers 4 or 7, gives the thing sought.

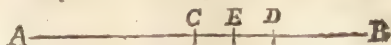


4. To find two sections of a line, which with the whole shall be in harmonical proportion with regard to their quantity. Take any three numbers in harmonical proportions, as 3—4—6, and divide the whole line into as many parts as the greatest of these three numbers, 6; and at the points of division answering the two other numbers, 3 and 4, you have the section sought.

5. To find two sections of a line, which together with the whole, shall be harmonical with respect to quantity or tune. Take any three numbers, concords with each other, *e. g.* 2:3 and 8, and divide the line by the greatest: the points of division answering to the other two, give the section sought.

6. To divide a chord A B in the most simple manner, so as to exhibit all the original concords. Divide the line into two equal parts at C, and subdivide the

part C B into equal parts at D, and again the part C D into equal parts at E.



Here A C: A B is an octave, A C: A D a fifth, A D: A B a fourth, A C: A E a third greater; A E: A D a third less; A E: E B, a sixth greater; A E: A B a sixth less.

CHORD is also used in music for the note or tone to be touched or sounded: in this sense the fifth is said to consist of five chords or sounds.

CHORD, *chorda*, in anatomy, a little nerve composed by a combination of ramuli of the fifth and seventh pairs, and extended in the manner of a chord, under the membrane of the drum of the ear. See the article TYMPANUM.

CHORDAPSUS, in medicine, a disease of the intestines, when to the touch they feel like stretched cords: it is the same with the iliac passion. See the article ILIAC PASSION.

CHORDEE, in medicine and surgery, a symptom attending a gonorrhoea, consisting in a violent pain under the frenum, and along the duct of the urethra, during the erection of the penis, which is incurvated downwards. These erections are frequent and involuntary.

The chordee being a squeezing of the corroded urethra between the cavernous bodies, and the erection being excited by the stimulating matter of a gonorrhoea, the cure is to be performed by preserving the urethra from being corroded, or by suppressing the erection, by which means the pressure of the urethra will be prevented. The first may be effected by mild diuretics, softening emulsions, and cooling injections; but the last can only be performed by those means that give the most sudden check to the swelling of the penis, such as immersion in cold water.

It has been found by experience, that rubbing a mercurial ointment into the part affected, and along the duct of the urethra, has done considerable service in this complaint.

CHOREA SANCTI VITI, ST. VITUS'S DANCE, in medicine. See the article VITUS'S DANCE.

CHOREPISCOPUS, or COUNTRY-BISHOP, an assistant to a bishop, first introduced into the church when the dioceses became enlarged by the conversion of the pagans in the country and villages

at a distance from the mother-church.

There are different opinions concerning the nature of this order: some think, that they were presbyters, and never had episcopal ordination; others say, there were two classes of them, some that had episcopal ordination, and others that were simple presbyters; and a third party imagine they were properly what we now call bishops in partibus.

CHOREPISCOPUS is also the name of a dignity in some cathedrals in Germany, signifying the same with chori-episcopus, or bishop of the choir. The first chanter in the church of Cologne is called chori-episcopus.

CHOREUS, in antient poetry, the same with trochæus, or trochee. See the article **TROCHEE**.

CHORGES, or **GORGES**, a town of Dauphiny, in France, about six miles east of Gap: east longitude 6° , and north latitude $44^{\circ} 36'$.

CHORIAMBUS, in antient poetry, a foot consisting of four syllables, whereof the first and last are long, and the two middle ones are short; or, which is the same thing, it is made up of a trochæus and iambus: such is the word nobilitās.

CHORION, in anatomy, the exterior membrane which invests the foetus in the uterus: it is thick, spongy, villose, and furnished with a vast apparatus of blood-vessels. It is contiguous to the uterus, and is separable into two membranes or parts.

CHORIST, or **CHORISTER**, one who sings in the choir. See the article **CHOIR**.

CHOROBATA, or **CHOROBATES**, a kind of water-level among the antients, of the figure of the letter T, according to Vitruvius's description. See **LEVEL**.

CHOROGRAPHY, the art of making a map of some country or province.

Chorography differs from geography, as the description of a particular country does from that of the whole earth; and from topography, as the description of a country differs from that of a town or district. See the articles **GEOGRAPHY** and **TOPOGRAPHY**.

CHOROIDES, in anatomy, an epithet of several membranes, which on account of the multitude of their blood-vessels resemble the chorion. See **CHORION**.

Choroides denotes the coat of the eye placed immediately under the sclerotica, the inferior lamella of which is called tunica ruyfchiana; it is very full of vessels, and coloured black.

Mr. Le Cat, in his description of the parts of the eye, maintains Marriot's opinion

of the choroid coat, and not the retina, being the immediate organ of vision. The retina, according to him, is to the choroid, what the epidermis is to the skin.

Choroides is used for a portion of the pia mater. See the article **PIA MATER**.

Plexus CHOROIDES is a convolution of the membranes of the brain, consisting of an assemblage of veins and arteries.

CHORO FAVORITO, in the italian music, a chorus in which are employed the best voices and instruments, to sing the recitativos, play the ritornellos, &c. It is otherwise called the little chorus, or choro recitante.

CHORO-SPEZZATO, in the italian music, a composition of two, three, or four chorusses. See the next article.

CHORUS, in dramatic poetry, one or more persons present on the stage during the representation, and supposed to be bystanders without any share in the action. Tragedy in its origin was no more than a single chorus, who trod the stage alone, and without any actors, singing didyrambics or hymns in honour of Bacchus. Thespis, to relieve the chorus, added an actor, who rehearsed the adventures of some of their heroes; and Æschylus, finding a single person too dry an entertainment, added a second, at the same time reducing the singing of the chorus, to make more room for the recitation. But when once tragedy began to be formed, the recitative, which at first was intended only as an accessory part to give the chorus a breathing time, became a principal part of the tragedy. At length, however, the chorus became inserted and incorporated into the action: sometimes it was to speak, and then their chief, whom they called coryphæus, spoke in behalf of the rest; the singing was performed by the whole company; so that when the coryphæus struck into a song, the chorus immediately joined him.

The chorus sometimes also joined the actors in the course of the representation, with their complaints and lamentations on account of any unhappy accidents that befel them: but the proper function, and that for which it seemed chiefly retained, was to shew the intervals of the acts; while the actors were behind the scenes, the chorus engaged the spectators; their songs usually turned on what was exhibited, and were not to contain any thing but what was suited to the subject, and had a natural connection with it; so that the chorus concurred with the actors for

ad-

advancing the action. In the modern tragedies the chorus is laid aside, and the fiddles supply its place. Mr. Dacier looks on this retrenchment as of ill consequence, and thinks it robs tragedy of a great part of its lustre; he therefore judges it necessary to re-establish it, not only on account of the regularity of the piece, but also to correct, by prudent and virtuous reflections, any extravagances that might fall from the mouths of the actors, when under any violent passion.

Mr. Dacier observed also, that there was a chorus, or *grex*, in the antient comedy; but this is suppressed in the new comedy, because it was used to reprove vices by attacking particular persons; as the chorus of the tragedy was laid aside to give the greater probability to those kind of intrigues which require secrecy.

To give the CHORUS, among the Greeks, was to purchase a dramatic piece of the poet, and defray the expences of representation. See the article CHORAGUS.

CHORUS, in music, is when, at certain periods of a song, the whole company are to join the singer in repeating certain couplets, or verses.

The word *chorus* is often placed in italian music, instead of *tutti*, or *da capella*, which mean the grand chorus. When after *chorus* we met with 1^o, or *primo*, we must understand that it is to be played in the first chorus; if 2^o, II^o, or *secondo*, in the second; and, consequently, that the composition is for eight voices or different parts.

CHOSAIR, a town of Egypt, situated on the coast of the Red-sea.

CHOSE, in the common-law, is used with various epithets: as,

CHOSE *in action*, is an incorporeal thing, and only a right, as an annuity, bond, covenant, &c. and generally all cautes of suit, for any duty or wrong, are accounted choses in action.

Choses in action may be also called choses in suspense, as having no real existence, and not being properly in our possession.

CHOSE LOCAL is any thing that is annexed to a place, such as a mill, &c.

CHOSE TRANSITORY, something moveable, and which may be taken away, or carried from place to place.

CHOTZIM, a frontier town of Moldavia, on the confines of Poland, situated on the river Neister, and subject to the Turks: east long. 27°, and north latit. 48°.

CHOUAN, in commerce, the levant name

for the seed of a species of *santolina*, known among us by that of *carmineseed*, from its being used in the preparation of that drug. See CARMINE.

CHOUGH, or CORNISH CHOUGH, in ornithology, a species of *corvus*. See the article CORVUS.

CHREMnitz, or CHREMnITS, the principal of the mine-towns in upper-Hungary, situated about sixty-eight miles north east of Presburg, and subject to the house of Austria: east longitude 19°, and north latitude 48° 45'.

CHREMPS, in ichthyology, a species of *sparus*, with the second ray of the belly-fins terminating in a kind of bristle.

CHRISM, *χρῖσμα*, oil consecrated by the bishop, and used in the romish and greek churches in the administration of baptism, confirmation, ordination, and extreme unction.

It is observed, that there are two kinds of chrism, the one prepared of oil and balsam, used in baptism, confirmation, and ordination; the other of oil alone, consecrated by the bishop, used antiently for the catechumens, and still in extreme unction. The chrism is prepared on Holy-thursday with a world of ceremony: in Spain it was antiently the custom for the bishop to take one third of a sol for the chrism distributed to each church, on account of the balsam that entered its composition.

The action of imposing the chrism is called chrismation: this the generality of the romish divines hold to be the next matter to the sacrament of confirmation. The chrismation in baptism is performed by the priest, that in confirmation by the bishop.

CHRISM-PENCE, a tribute antiently paid to the bishop by the parish clergy for their chrism, consecrated at Easter for the ensuing year; this was afterwards condemned as simoniacal.

CHRISOM, *chrismale*, in antient customs, was the face-cloth, or piece of linen laid over the child's head when it was baptized; whence, in our bills of mortality, such children as die in the month, are called chrifoms; the time between the birth and baptism, was also called chrifomus.

CHRIST, *χρῖςτος*, an appellation usually given to our Saviour, answering exactly to the hebrew *messiah*, and signifying one that is anointed. See MESSIAH.

It does not appear that Jesus Christ ever received any external sensible unction, and therefore his anointing must be understood

derstood in a figurative, spiritual sense, to denote his designation or appointment to the office of a messiah.

The Jews used to give this appellation to their kings. Now as the holy unction was given to kings, priests, and prophets, so by describing the promised saviour of the world under the name of anointed, it was sufficiently evidenced that the qualities of king, prophet, and high priest, would all evidently meet in him.

Order of CHRIST, a military order, founded in 1320, by Dionysius I. king of Portugal, to animate his nobles against the Moors.

The arms of this order are gules, a patriarchal cross, charged with another cross argent: they had their residence at first at Castromarin, afterwards they removed to the city of Thomar, as being nearer to the Moors of Andalusia and Estremadura.

CHRIST is also the name of a military order in Livonia, instituted in 1205, by Albert bishop of Riga. The end of this institution was to defend the new christians, who were converted every day in Livonia, but were persecuted by the heathens. They wore on their cloaks a sword with a cross over it, whence they were also denominated brothers of the sword.

CHRIST-CHURCH, a borough-town of Hampshire, thirty miles south-west of Winchester, near the sea-coast; west long. 2°, north lat. 50° 40'.

It sends two members to parliament.

CHRIST-THORN, in botany, a name given to the paliurus, a species of rhamnus. See the article RHAMNUS.

CHRISTENING, denotes the same with baptism. See the article BAPTISM.

CHRISTIAN, in a general sense, something belonging to Christ. See CHRIST.

CHRISTIAN CHURCH. See CHURCH.

CHRISTIAN COURT, *christianitatis curia*, the ecclesiastical or bishop's court, in contradistinction to the civil courts, which are called the king's courts, *curie domini regis*. See the article BISHOP'S COURT.

Most CHRISTIAN king, *rex christianissimus*, one of the titles of the king of France.

The french antiquaries trace the origin of this appellation up to Gregory the great, who writing a letter to Charles Martel, occasionally gave him that title, which his successors have since retained.

CHRISTIAN NAME, that given at baptism. See the article NAME.

CHRISTIAN RELIGION, that instituted by Jesus Christ.

As the christian religion hath the purest and most abstracted, the highest and most rational spiritual notions, so has it been most subject to differences of opinions, and distractions of conscience; the several sects whereof are taken notice of under their proper heads.

If we consider the christian religion with regard to its principles, it cannot be denied but they are very obscure, and difficult to be understood, and its mysteries are above the reach of human comprehension. The obscurity of them is no doubt owing, in a great measure, to the subtleties introduced by several philosophers, who became proselytes to christianity in the first ages of the church, and who afterwards becoming doctors, endeavoured to explain the mysteries of the christian religion by arguments borrowed from the platonic and other pagan systems of philosophy. Their successors likewise, by their laboured explanations, added new obscurities to those which they found before; and the human passions insensibly blending with these systems, nothing more was wanting to render the christian religion an impenetrable mystery. To this, no doubt, is owing the origin of that number of sects and heresies which have sprung up in the church, each of which lays claim to a primitive purity of doctrine, the characteristic of divine inspiration, a right of superiority, and a perfect knowledge of the way to heaven; and there is not one which, indirectly at least, can forbear damning the rest who dissent from it.

The excellency of its morals, is a demonstration of the divine original of the christian religion. It consists not in idle philosophical speculations, or perpetual grimace and affectation, but in a steady practice of the duties it requires, without the least view of recompence from men: it neither seeks their admiration, nor attempts to dazzle their eyes and deceive them: there is no religion which excites man more to the love and practice of virtue, and hatred of vice, or that prescribes greater rewards for the one, or punishments for the other.

The christian religion, in regard to the practice of it, consists in the most exact imitation, that possibly can be conceived, of the infinite perfections of the supreme being: from hence we may derive that solid virtue, that power which it gives us to subdue our passions, and that satisf-

tisfaction which we receive from the observance of those laws to the utmost of our abilities, which God has prescribed to mankind.

The characters of christianity are perfectly conformable to the attributes of the divine majesty. The moral part never indulges the passions: it has no other view than the preservation and happiness of mankind; nor have the most inveterate enemies of the christian faith ever invented any thing but what was much inferior to it, both in practice and speculation.

CHRISTIANS, those who profess to believe and practice the christian religion, and are baptized in the name of Jesus Christ.

When christianity was first planted in the world, those who embraced it were known among themselves by the names of disciples, believers, elect, saints and brethren: nor did they assume the name of christians till the year 43 at Antioch, where St. Paul and Barnabas jointly preached the christian religion. The primitive christians were known by several denominations. Epiphanius says they were stiled Jesseans, either from Jesse, the father of David, or, what is more probable, from Jesus, whose disciples they were. Eusebius says that they were called *therapeutæ*, i. e. worshippers of the true God, or spiritual physicians: and because the christian life took its original from the waters of baptism, the christians were wont to please themselves with the name *pisciculi*, i. e. fishes. Sometimes they stiled themselves *gnostics*, i. e. men of understanding and knowledge; which name being afterwards abused by a perverse sort of heretics, they added the title of christian to it, and gave themselves the name of christian-gnostics.

The christians had also many names of reproach cast upon them by their enemies, such as nazarens, galileans, greeks, impostors, atheists, &c. which last name was common, upon account of their denying the worship of the heathen gods.

CHRISTIANS of St. John, a sect of christians very numerous in Balsara, and the neighbouring towns: they formerly inhabited along the river Jordan, where St. John baptized, and it was from thence they had their name. They hold an anniversary feast of five days, during which they all go to the bishop, who baptizes them with the baptism of St. John. Their baptism is also performed on rivers, and that only on Sundays;

they have no notion of the third person in the trinity, nor have they any canonical book, but abundance full of charms, &c. Their bishoprics descend by inheritance, as our estates do, though they have the ceremony of an election.

CHRISTIANS of St. Thomas, a sort of christians in a peninsula of India, on this side of the gulph: they inhabit chiefly at Cranganor, and the neighbouring country: they admit of no images, and receive only the cross, to which they pay a great veneration: they affirm that the souls of the saints cannot see God till after the day of judgment: they acknowledge but three sacraments, *viz.* baptism, orders, and the eucharist: they make no use of holy oils in the administration of baptism, but after the ceremony anoint the infant with an unction composed of oil and walnuts, without any benediction. In the eucharist, they consecrate with little cakes made of oil and salt, and instead of wine, make use of water in which raisins have been infused.

CHRISTIANA, a town of Norway, in the province of Aggerhuys, situated on a bay of the sea, 100 miles north of Gottenburg; east long. $10^{\circ} 15'$, north lat. $59^{\circ} 30'$.

CHRISTIANOPLE, a port-town of Sweden, situated on the Baltic sea, in the territory of Bleking, and province of south Gothland, about thirteen miles north-east of Carelscoön: east long. $15^{\circ} 40'$, north lat. 57° .

CHRISTIANSTADT, a town of Sweden, situated on the river Helles, in the territory of Bleking, and province of south Gothland, forty-five miles west of Carelscoön; east long. $14^{\circ} 40'$, north lat. $56^{\circ} 30'$.

CHRISTMAS, a festival of the christian church, observed on the 25th of December, in memory of the nativity of Jesus Christ.

Whether this festival was always observed on the 25th of December, is a matter of doubt. Dr. Cave is of opinion, that it was first kept by the eastern church in January, and confounded with the epiphany, till, receiving better information from the western churches, they changed it to that day. St. Chrysostom affirms, that it was not above ten years since christmas began to be celebrated in the church of Antioch upon that day: Clemens Alexandrinus reckons from the birth of Christ to the death of Commodus, exactly 194 years, one month, and thirteen

thirteen days; which time, being taken according to the Egyptian account, and reduced to the Julian or Gregorian stile, makes the birth of Christ fall on the 25th or 26th of December: yet notwithstanding this, the same father tells us, that there were some who, more curiously searching after the year and day of Christ's nativity, affixed the latter to the 25th of the month *pachon*. Now in that year in which Christ was born, the month *pachon* commenced the 20th of April, so that according to this computation, Christ was born on the 16th of May. Hence we may see how little certainty there is in this matter, since so soon after the event, the learned were divided in opinion concerning it. As to the antiquity of this festival, the first footsteps we find of it were in the second century about the time of the emperor Commodus.

CHRISTMAS-ROSE, in botany, a name sometimes given to a species of black hellebore. See the article *HELLEBORE*.

CHRISTOLYTI, in church-history, a sect of christian heretics, who maintained that Christ descended into hell body and soul, and that he left both there, ascending into heaven with his divinity alone.

CHRISTOMACHI, an appellation given to all heretics who deny Christ's divinity, or maintain heterodox opinions concerning his incarnation.

CHRISTOPHER HERB, *christophoriana*, in botany. See *CHRISTOPHORIANA*.

CHRISTOPHERS, or *St. CHRISTOPHERS*, one of the Caribbee-islands, to which Columbus gave his christian name; west long. 62°, north lat. 17° 30'. It is about twenty miles long, and seven broad; and has a high mountain in the middle, from whence some rivulets run down. Its produce is chiefly sugar, cotton, ginger, and indigo. It is a british colony, and lies about sixty miles west of Antego.

CHRISTOPHORIANA, *CHRISTOPHER-HERB*, in botany, a genus of the polyandria-monogynia class of plants, called by Linnæus *actæa*; the flower of which is roseaceous, consisting of four petals: the fruit is a roundish, oval, unilocular berry, containing a number of semi-circular seeds, disposed in a double row, with their straight sides towards each other.

CHROASTACES, in natural-history, a genus of pellucid gems, comprehending all those of variable colours, as viewed in different lights; of which kind are the

opal and the asteria, or oculus cati. See the articles *OPAL* and *ASTERIA*.

CHROMA, in music, a note or character of time, usually termed a quaver. See the articles *CHARACTER* and *QUAVER*.

Chroma is also a graceful way of singing, or playing with quavers and trilloes.

CHROMATIC, in the antient music, the second of the three kinds into which the consonant intervals were subdivided into their concinous parts. The other two kinds are enharmonic and diatonic. See the article *ENHARMONIC*, &c.

The chromatic abounds in semitones: it had its name by reason the Greeks marked it with the character of colour, which they call *χρῶμα*; or as P. Parran says, because it is the medium between the other two, as colour is between black and white; or because the chromatic kind varies, and embellishes the diatonic by its semitones, which have the same effects in music, as the variety of colours have in painting.

The degrees or elements of the chromatic genus, are the two semitones and triemitonium. Aristoxenus divides the chromatic genus into three species, the *molle*, *hemitolon*, and *tonicum*. Ptolemy into *molle*, or *antiquum*, and *intensum*. The *molle* expresses a progression by small intervals, the *intensum* by greater. The Spartans banished it their city, because of its softness.

Mr. Malcolm observes, that we are at a loss to know what use the antients could make of these divisions and sub-divisions into genera and species. All acknowledge the diatonic to be the true melody; the others seem only numerous irregularities, calculated to please the fancy by their novelty and oddness; and are besides so difficult, that few, if any, are said to have practised them accurately. Notwithstanding this censure of Malcolm, it is plain that the accidental flats and sharps which belong to the chromatic genus, are the cause of that vast variety of airs to be found in the modern music.

CHROMATIC, in painting, a term used to signify the colouring, which makes the third part in the art of painting.

CHROMIS, in ichthyology, a name used for two very different kinds of fish, viz. a species of sparus called also *chremys*, and the sciæna with the upper jaw longest, and otherwise called *umbra*. See the articles *SPARUS* and *SCIÆNA*.

CHRONIC, or *CHRONICAL*, among physicians,

ficians, an appellation given to diseases that continue a long time, in contradistinction to those that soon terminate, and are called acute.

If health consists in a free and uninterrupted circulation of the vital juices through the vessels, and a disease is an interruption of this circulation, we may conceive that an acute distemper arises, when many and extensive obstructions occupy a great number of the vessels—all of a sudden; for then the usual quantity of blood is impelled through a smaller space, and returns sooner to the heart: in consequence of this, the contractions of the heart are more frequent, the velocity of the circulating juices is greater, the reciprocal action between the solids and fluids is increased, and of course the heat of the body.

But when obstructions are formed by degrees, and by little at a time, however extensive they may become ultimately, no such sudden alteration is induced; but the vital powers, perhaps by discharging out of the body a portion of the superfluous juices, find a way of preserving the equilibrium betwixt the solids and fluids, and of adapting the circulating fluids to the capacity of the peryious vessels, without raising a degree of fever sufficient to impart the name of acute to the disorder. Chronical diseases then may be said to be produced in the body by some peccancy in the juices, either contracted insensibly and by degrees, or else left by some acute distemper ill cured.

CHRONICLE, *χρονονιον*, in matters of literature, a species or kind of history, disposed according to the order of time, and agreeing in most respects with annals. See the article **ANNALS**.

The word chronicle is now become obsolete, being seldom used except in speaking of the old english histories, as Stow's chronicle, Holinshed's chronicle, &c.

Books of CHRONICLES, in the canon of scripture, two sacred books, called by the Greeks *paralipomena*; *παράλειπόμενα*, that is, remains; additions, or supplements, as containing many circumstances omitted in the other historical books.

In effect, the *paralipomena*; or chronicles, are an abridgment of sacred history to the return of the jews from the babylonish captivity. The first book traces the genealogies of the Israelites from Adam, describes the death of king Saul, and gives a brief but accurate account of king David's reign. The second, as faithfully traces

the progress of the kingdom of juda, its various revolutions, its period under king Zedekiah, and the restoration of the jews by Cyrus.

CHRONOGRAM, *χρονογραμμα*, a species of false writ, consisting in this, that a certain date or epocha is expressed by numeral letters of one or more verses: such is that which makes the motto of a medal struck by Gustavus Adolphus, in 1632:

ChrIstVs DVX, ergo trIVMphVs.

Such also are the two following verses, made on the duke of Weymar on taking Brisac, in 1638.

InVICto fortIs CeCIDIt BræIsæIs
ACHILLI,

IVngItVr & tanto DIGNa pVellA VIrø.

CHRONOLOGY, *χρονολογία*, the science or doctrine of time, in so far as it regards history, whether civil or ecclesiastical.

The business of chronology, is to ascertain and adjust the various epochas, æras, and other periods mentioned in history; so that the revolutions of empires and kingdoms, and other remarkable events, may be truly stated. See the articles **ÆRA** and **EPOCHA**.

It also takes a view of the various fasts, calendars, and methods of computing time practised by different nations; compares them together, and settles such order and harmony among them, that the exact time, in which any remarkable event happened, may be certainly known. It is to chronology, as Mr. Locke well observes, that history owes its use and beauty; as being, without it, a mere chaos, a jumble of facts confusedly heaped together, and consequently capable of affording neither pleasure nor instruction. See **ALMANAC** and **CALENDAR**.

To chronology also belongs the consideration of the lesser divisions of time, as hour, day, week, month, year, cycle, &c. See the articles **HOUR**, **DAY**, **WEEK**, &c.

Sir Isaac Newton's astronomical principles of CHRONOLOGY.—This illustrious author, in order to settle the grand epocha of the argonautic expedition, which he makes the basis of his chronology, makes use of the following astronomical principles.

He observes that Eudoxus, in his description of the sphere of the antients, placed the solstices and equinoxes in the middle of the constellations Aries, Cancer, Chelæ, and Capricorn: and also that this sphere or globe was first made by Musæus, and the asterisms delineated upon it by Chiron,

two of the Argonauts. Now it is well known, that by the precession of the equinoxes the stars go back $50''$ per annum. And since, at the end of the year 1689, the equinoctial colure passing through the middle point, between the first and last star of Aries, did then cut the ecliptic in $8^{\circ} 6' 44''$, it is evident, that the equinox had then gone back $36^{\circ} 44''$; therefore, as $50''$ is to one year, so is $36^{\circ} 44'$ to 2645 years, which is the time since the argonautic expedition to the beginning of the year 1690; that is 955 years before Christ is the æra of the argonautic expedition.

But our great author is more particular and subtle in this affair. He finds the mean place of the colure of the equinoxes and solstices, by considering the several stars they passed thro' among other constellations as follows, according to Eudoxus. In the back of Aries is a star of the sixth magnitude, marked γ by Bayer; in the end of the year 1689, its longitude was $89^{\circ} 38' 45''$; and the equinoctial colure passing through, according to Eudoxus, cuts the ecliptic in $8^{\circ} 6' 58' 57''$.

In the head of Cetus are two stars of the fourth magnitude, called ν and ξ by Bayer. Eudoxus's colure, passing in the middle betwixt them, cuts the ecliptic in $8^{\circ} 6' 58' 51''$, at the end of the year 1689.

In the extreme flexure of Eridanus there was formerly a star of the fourth magnitude (of late it is referred to the breast of Cetus.) It is the only star in Eridanus; through which the colure can pass; its longitude was at the end of the year 1689 $9^{\circ} 25' 22' 10''$, and the colure of the equinox passing through it cuts the ecliptic in $8^{\circ} 7' 12' 40''$.

In the head of Perseus, rightly delineated, is a star of the fourth magnitude, called τ by Bayer; its longitude was $8^{\circ} 23' 25' 30''$, at the end of the year 1689; and the colure passing through it cuts the ecliptic in $8^{\circ} 6' 18' 57''$. Also in the right-hand of Perseus is a star of the 4th magnitude, whose longitude at the end of the year 1689 was $8^{\circ} 24' 25' 27''$, and the equinoctial colure passing through it cuts the ecliptic in $8^{\circ} 4' 56' 40''$.

Now the sum of all these
five places of the co-
lure, viz.

| | | | |
|---|----|-----|-----|
| 8 | 6° | 58' | 57" |
| 8 | 6 | 58 | 51 |
| 8 | 7 | 12 | 40 |
| 8 | 6 | 18 | 57 |
| 8 | 4 | 56 | 40 |

Is = 1 2 26 05

The fifth part of which is $= 8^{\circ} 6' 29' 13''$, which is therefore the mean place in which the colure did, in the end of the year 1689, cut the ecliptic.

After a like manner he determines the mean place of the official summer colure, to be $9^{\circ} 6' 28' 46''$, which, as it is just 90° from the other, shews it to be rightly deduced. The equinoxes having then departed $1^{\circ} 6' 29'$ from the cardinal points of Chiron, shews that 2628 years have elapsed since that time, which is more correct than the former number, though less by only 17 years. See PRECES ION.

By some other methods of a like nature, he also shews the æra of the Argonauts ought to be placed in that age of the world; and having fixed this most ancient epocha, he makes his computation, with reference thereto, in the future part of his book.

As to the authors who have written on this science, they are very numerous: among the moderns are Petavius, Vossius, Usher, Sir Isaac Newton, &c. and among the antients, Julius Africanus, Eusebius, &c. There is also an excellent treatise of chronology by the learned Strauchius, translated into english by Mr. Sault, F. R. S. and an useful compend by Mr. Wells.

CHRONOMETER, in general, denotes any instrument, or machine, used in measuring time: such are dials, clocks, watches, &c.

The term chronometer, however, is generally used in a more limited sense, for a kind of clock so contrived as to measure a small portion of time with great exactness, even to the sixteenth part of a second: of such a one there is a description in Desaguliers's experimental philosophy, invented by the late ingenious Mr. George Graham; which must be allowed to be of great use for measuring small portions of time in astronomical observations, the time of the fall of bodies, the velocity of running waters, &c. But long spaces of time cannot be measured by it with sufficient exactness, unless its pendulum be made to vibrate in a cycloid; because, otherwise, it is liable to err considerably, as all clocks are which have short pendulums that swing in large arches of a circle.

CHRONOSCOPE, denotes much the same with chronometer. See the preceding article.

CHROSTASIMA, in natural history, a genus of pellucid gems, comprehending all

all those which appear of one simple and permanent colour in all lights : such are the diamond, carbuncle, ruby, garnet, amethyst, sapphire, beryl, emerald, and the topaz. See the articles DIAMOND, CARBUNCLE, &c.

CHRYSAETUS, or **CHRYSAETOS**, in ornithology, a name given to the eagle with a yellow cera or membrane, covering the base of the beak.

CHRYSALIS, in natural history, a state of rest and seeming insensibility which butterflies, moths, and several other kinds of insects, must pass through before they arrive at their winged or most perfect state. See the article BUTTERFLY.

The first state of these animals is in the caterpillar or reptile form ; then they pass into the chrysalis-state, wherein they remain, immoveably fixed to one spot, and surrounded with a case or covering, which is generally of a conical figure ; and, lastly, after spending the usual time in this middle state, they throw off the external case wherein they lay imprisoned, and appear in their most perfect and winged form of butterflies, or flies. See CATERPILLAR.

Through the whole course of this transformation, the animal remains the same, only surrounded with different coverings : in the caterpillar-form, it is a kind of foetus or embryo, wrapped up in several coats, the limbs of which can only be discovered by the assistance of the microscope : in the chrysalis or nymph-state, it acquires a farther degree of maturity, and then the limbs, wings, &c. become perfectly distinct ; and, at length, it disengages itself, and becomes an inhabitant of the air, adorned with a peculiar kind of plumage : in this last state the two sexes copulate, and the female lays her eggs, to be afterwards hatched into caterpillars, and to pass through the like changes with the parent insect.

CHRYSANTHEMUM, in botany, a genus of plants belonging to the syngenesia-polygamia-superflua class, the compound flower of which is radiated, the proper hermaphrodite one of a funnel-form, and the female ligulated, oblong, and tridentated. There is no pericarpium : the immutated cup contains, in the hermaphrodite, solitary, oblong, naked seeds ; in the female, seeds very like those of the hermaphrodite.

The flowers of this plant being bruised with cerate, are said to discuss a rheumatism.

CHRYSOBALANUS, in botany, a ge-

nus of the polyandria-monogynia class of plants, the flower of which consists of five ovated, plain, patent petals ; the fruit is an ovated large berry, with one cell, containing an ovated, brittle, wrinkled kernel, with five furrows.

CHRYSOCOLLA, in natural history, a species of green ochre. See OCHRE.

CHRYSOCOMA, **GOLDYLOCKS**, in botany, a genus of plants, belonging to the syngenesia-polygamia-æqualis class of plants, the compound flower of which is tubulous, the proper one of a funnel-form, with a quinquefid limb. There is no pericarpium, but the cup scarcely immutated, contains solitary, ovato-oblong, compressed seeds, crowned with a hairy down.

CHRYSOGONUM, **MOTH-MULLEIN**, in botany, a genus of plants belonging to the syngenesia-polygamia-necessaria class : the universal flower is radiated ; the proper hermaphrodite one is of a funnel-form quinqueidentated and erect ; the female one plain, oblong, truncated, and tridentated. There is no pericarpium : the immutated cup contains solitary, obverso-cordated, quadrangular seeds in the female ; the hermaphrodites prove abortive.

CHRYSOLITE, in natural history, a gem which the antients knew under the name of the topaz ; and the true chrysolite of the antients, which had its name from its fine gold-yellow colour, is now universally called topaz by modern jewellers. See the article TOPAZ.

The chrysolite of our times is found of various sizes : the most common, however, when purest and most valuable, is about the size of a nutmeg. It is of various figures, but never columnar, or in the figure of crystal. Sometimes it is found in roundish, irregular, pebble-like masses ; at other times flat and oblong, but always with a rude surface. Its colour is a pale dead green, with an admixture of yellow ; but the most usual tinge is the colour of an unripe olive, with somewhat of a brassy yellow. It is very soft in comparison of the other gems, and its finest pieces do not exceed crystal in hardness. It is found in New Spain and in several parts of Silesia and Bohemia. The american ones are greatly superior to the european, but are usually small : the bohemian are very large ; and few of them are of a clear colour, or free from flaws.

CHRYSOLITE PASTE, a kind of glass made in imitation of natural chrysolite, by mixing

mixing two ounces of prepared crystal, with ten ounces of red-lead, adding twelve grains of crocus martis made with vinegar; and then baking the whole for twenty-four hours, or longer, in a well luted crucible.

CHRYSOMELA, in zoology, a genus of insects with bracelet-like antennæ, thickest towards the extremities; the body of an oval form, and the thorax rounded. Of this genus, which belongs to the order of coleoptera, there are different species, denominated from the trees on which they feed, as the chrysomela of tanzy, beech, alder, willow, &c. some being of one colour, some of another, with a tinge of gold-colour diffused through it.

CHRYSOPHYLLUM, **STAR-APPLE**, in botany, a genus of the pentandria-monogynia class of plants; the flower of which is monopetalous and campanulated, with the limb divided into ten segments, alternately roundish and patulous, and narrow and erect; the fruit is a sub-ovated large berry with one cell, containing three osseous seeds.

CHRYSOPRASUS, or **CHRYSOPRASUS**, the tenth of the precious stones, mentioned in the Revelations, as forming the foundation of the heavenly Jerusalem.

The chrysoprasus is a species of prasius, of a pale but pure green colour, with an admixture of yellow. See **PRASIUS**.

CHRYSOPS, **GOLDEN-EYE**, in zoology, a species of hemerobius, so called from the colour of its eyes. See the article **HEMEROBIOUS**.

CHRYSOSPLENIUM, **GOLDEN-SAXIFRAGE**, in botany, a genus of the octandria-digynia class of plants, without any flower-petals, unless the cup, which is coloured, be reckoned such: the fruit is an unilocular, two-horned capsule, containing a number of very minute seeds.

CHRYSOPLYCIUS PULVIS, a powder mentioned by Helmont, which, he says, procures hardness to lead, and difficulty of liquefaction to tin and mercury, but deprives iron of both these qualities.

CHRYSTAL, or **CRYSTAL**. See the article **CRYSTAL**.

CHRYSTALLINE and **CHRYSTALLIZATION**. See the articles **CRYSTALLINE** and **CRYSTALLIZATION**.

CHUB, or **CHUBB**, in ichthyology, the english name of a species of cyprinus, with eleven rays in the pinna ani. See the article **CYPRINUS**.

When full grown, it is about a foot in length. See plate **XLI**. fig. 3.

CHUPMESSAHITES, a sect of maho-

metans, who believe that Jesus Christ was God, and the redeemer of the world; an opinion which they maintain with such courage, as to choose to die rather than deny it.

This sect is said to be very numerous, though few dare make profession of it openly. The word signifies as much as protectors of the christians.

CHURCH, has different significations, according to the different subjects to which it is applied. 1. It is understood of the collective body of christians, or all those over the face of the whole earth who profess to believe in Christ, and acknowledge him to be the saviour of mankind. This is what the antient writers call the catholic or universal church. Sometimes the word church is considered in a more extensive sense, and divided into several branches, as the church militant, is the assembly of the faithful on earth; the church triumphant, that of the faithful already in glory, to which the papists add the church patient, which, according to their doctrines, is that of the faithful in purgatory.

2. Church is applied to any particular congregations of christians, who at one time, and in one place, associate together and concur in the participation of all the institutions of Jesus Christ, with their proper pastors and ministers. Thus we read of the church of Antioch, the church of Alexandria, the church of Thessalonica, and the like.

3. Church denotes a particular sect of christians distinguished by particular doctrines and ceremonies. In this sense we speak of the romish church, the greek church, the reformed church, the church of England, &c.

The latin or western church, comprehends all the churches of Italy, France, Spain, Africa, the north, and all other countries whither the Romans carried their language. Great Britain, part of the Netherlands, of Germany, and of the North, have been separated from hence ever since the time of Henry VIII. and constitute what we call the reformed church, and what the romanists call the western schism.

The greek or eastern church, comprehends the churches of all the countries antiently subject to the greek or eastern empire, and through which their language was carried; that is, all the space extended from Greece to Mesopotamia and Persia, and thence into Egypt. This church has been divided from the roman,

roman, ever since the time of the emperor Phocas.

The gallican church, denotes the church of France, under the government and direction of their respective bishops and pastors. This church has always enjoyed certain franchises and immunities, not as grants from popes, but as derived to her from her first original, and which she has taken care never to relinquish. These liberties depend upon two maxims; the first, that the pope has no authority, or right to command or order any thing either in general or in particular, in which the temporalities and civil rights of the kingdom are concerned; the second, that notwithstanding the pope's supremacy is owned in cases purely spiritual, yet, in France, his power is limited and regulated by the decrees and canons of ancient councils received in that realm.

4. The word church is used to signify the body of ecclesiastics, or the clergy, in contradistinction to the laity. See CLERGY.

5. Church is used for the place where a particular congregation or society of christians assemble for the celebration of divine service. In this sense, churches are variously denominated, according to the rank, degree, discipline, &c. as metropolitan church, patriarchal church, cathedral church, parochial church, collegiate church, &c. See METROPOLIS, PATRIARCH, &c.

As to the form and fashion of the primitive churches, it was for the most part oblong; which figure, we learn from the constitutions, was intended to represent a ship, the common symbol of the church of Christ; and as to the several parts of which they consisted in those early ages, it appears that at the entrance of them was the vestibulum or porch, called also atrium and προνάος, adorned with cloisters, marble columns, and cisterns of water, where the lowest order of penitents stood begging the prayers of the faithful as they went in: that the church itself consisted of the narthex, where stood the catechumens, the energumens, and the hearers, who were one order of penitents; of the ναός, or nave, where the faithful assembled for the celebration of divine service; and of the λειτουργία, or βήμα, separated from the rest of the church by neat rails called cancelli. Into this part none were allowed to come, but those in holy orders, the emperors

excepted, who came up to the table to make their offerings, and then went back again. Within this division was the communion-table, or altar.

As to the ornaments of the ancient churches, they were either στυλῳματα, symbolical memorials or hieroglyphical representations of the kindness which they had received, in imitation of the votive tablets of the gentiles; or they consisted of portions of scripture, written upon the walls. A very considerable ornament was beautifying the roofs with gilding and mosaic work. Sometimes they decked their churches with flowers and branches; but as to pictures, the use of them was not allowed for the first 300 years, being first introduced by Paulinus, bishop of Nola, about the latter end of the fourth century.

CHURCH, with regard to architecture is defined by Daviler a large oblong edifice in form of a ship, with nave, choir, isles, chapel, belfry, &c. See each of these under its proper head.

Simple CHURCH, that which has only a nave and choir.

CHURCH with isles, that which has a row of porticos in form of vaulted galleries, with chapels in its circumference.

CHURCH in a greek cross, that where the length of the transverse part is equal to the length of the nave, so called because most of the greek churches are built in this form.

CHURCH in a latin cross, that where the nave is longer than the cross part, as in most of the gothic churches.

CHURCH in rotundo, that whose plan is a perfect circle, in imitation of the pantheon at Rome.

CHURCH-GOVERNMENT, DISCIPLINE, &c. See the articles ECCLESIASTICAL, DISCIPLINE, &c.

CHURCH-REEVES, the same with churchwardens.

CHURCH-SCOT, signified customary oblations paid to a parish-priest, from which the religious sometimes purchased an exemption.

By the latin writers it was called *primitive seminum*, on account it was first a quantity of corn paid to the priest on St. Martin's day, as the first fruits of harvest.

CHURCH-STRETTON, a market-town of Shropshire, about twelve miles south of Shrewsbury; west longitude 2° 50', north latitude 52° 35'.

CHURCH-THANE, the same with altar-thane. See the article **ALTAR-THANE**.

CHURCH-WARDENS, formerly called church-reeves, are officers chosen yearly, in Easter-week, by the minister and parishioners of every parish, to look after the church, church-yard, church revenues, &c. also to observe the behaviour of the parishioners, in relation to such misdemeanors as appertain to the censure or jurisdiction of the ecclesiastical court.

They are to be chosen by the joint consent of the minister and his parishioners, and, by custom, the minister may chuse one, and the parishioners another; or, if there be a custom for it, the parishioners may elect both, though it is against the canon. They are sworn into their office by the archdeacon; and if he refuses to swear a church-warden, a mandamus may issue out to compel him: for as the church-wardens have a trust reposed in them by the parish, as temporal officers, the parishioners are the proper judges of their abilities to serve, and not the archdeacon who swears them.

The church-wardens are a corporation to sue, and be sued, for the goods of the church: they are to take care of the repairs of the church; and if they erect or add any thing new to the same, they must have the consent of the parishioners, or vestry; and if in the church, the license of the ordinary: they have, with the consent of the minister, the placing of the parishioners in the seats of the body of the church, appointing gallery-keepers, &c. referring to the ordinary a power to correct the same. In London, the church-wardens have this authority in themselves: there also they are bound to fix fire-cocks, keep engines, &c. in their parishes, under the penalty of 10 l.

Besides their ordinary power, the church-wardens have the care of the benefice during its vacancy: they are to join with the overseers of the poor in making rates for their relief, setting up trades for employing them, placing out poor apprentices, settling poor persons, &c. It is their duty to collect the charity-money upon bills read in churches; they are to sign the certificates of those persons who receive the sacrament, to qualify them to bear offices, &c.

CHURCH-YARD, the same with coemetary. See the article **COEMETERY**.

CHURCHING of women after child-birth,

an office in the liturgy, containing a thanksgiving to be used by women after being delivered from the great pain and peril of child-birth.

This practice, like many other christian usages, undoubtedly took its rise from the jewish rite of purification enjoined by the law of Moses.

In the greek church, the time of performing this office is limited to the fortieth day after delivery; but in the western parts of Europe, no certain time is observed: the usual time with us is a month after delivery, provided the woman be sufficiently recovered. See the article **CHRY SOM**.

CHURLE, **CEORLE**, or **CARL**, in the time of the Saxons, signified a tenant at will, who held land of the thanes on condition of rent and service. They were of two sorts, one like our farmers that rented the out-land estates, the other which tilled and manured the demesnes, and therefore called ploughmen.

CHURN-OWL, in ornithology, a name given to a species of swallow, otherwise called *caprimulgus*, or the goat-sucker. See the article **CAPRIMULGUS**.

CHUSAN, or **CHEUXAN**, an island on the eastern coast of China, near the province of Chekiam; east long. 124°, north lat. 30° 40'.

CHUSISTAN, a province in the south-west part of Persia, bounded by the gulph of Persia on the south, and by the province of Eyraca-Agem on the north.

CHUTON, or **CHUTTON**, a market-town of Somersetshire, about seven miles north-east of Wells; west long. 2° 36', north lat. 51° 25'.

CHYLE, in the animal œconomy, a milky fluid, secreted from the aliments by means of digestion.

The principles of the chyle seem to be sulphureous, mucilaginous, saline, and aqueous. It is a kind of natural emulsion, both with regard to the colour, the ingredients, and the manner of preparation. There is this difference between the artificial and natural emulsion, that the latter is far more pure, and is prepared with much greater apparatus, not by the sudden expression of part of the liquid, but by a gentle and successive percolation. The chyle is made sooner or later, according to the difference of the temperaments, strength, aliments and customs: therefore how many hours chylickation requires, cannot be certainly determined.

When

When the chyle enters the villous oracula of the lacteals, it is not a fluid extracted merely from the aliment and drink, but a mixture of several fluids; that is, the saliva and thinner mucus of the mouth, and the two fluids of the œsophagus, one proceeding from the villous membrane of the tube itself, the other from its glands. To these may be added the glutinous fluid of the stomach, the pancreatic juice, the fluid of peyer's glands, which are very numerous in the small intestines. Hence the reason appears, why men may live upon bread and water, why the oriental nations use rice in the room of all kinds of pulse; and why acids, spirituous liquors, saline things, and many vegetable juices, herbs, roots, acrid and aromatic substances, are the least fit to generate chyle.

Some of the antients supposed the chyle was changed into blood in the liver; others of them in the heart: but the moderns, with more reason, take the change to be effected by the blood itself, in all the parts of the body. See the article BLOOD.

CHYLIFICATION, the formation of the chyle, or the act whereby the food is changed into chyle. See the articles **FOOD** and **CHYLE**.

Chylification commences by comminuting the aliment in the mouth, mixing it with saliva, and chewing it with the teeth; by these means the food is reduced into a kind of pulp, which, being received into the stomach, mixes with the juices thereof; and thus diluted, begins to ferment and putrify, and assuming a very different form from what it had before, grows either acid or rancid. Here it meets with a juice separated from the blood by the glands of that part, whose excretory ducts open into the cavity of the stomach: by the commixture of these liquors, whether of saliva or the juice of the stomach, a proper menstruum is composed, by which the parts of the aliment are still more and more divided by its insinuating into their pores, acquire still a greater likeness to the animal fluids, and form what is called chyme. The stomach, by means of its muscular fibres, contracting itself, does gradually discharge its contents by the pylorus into the duodenum; in which gut, after a small semicircular descent, it meets with the pancreatic juice and bile; both which joining with it, renders some part of the

aliment more fluid, by still disuniting the grosser parts from the more pure, and here the chylification is made perfect. The bile which abounds with lixivial salts, and is apt to entangle with the grosser parts of the concocted aliment, stimulates the guts, and cleanses their cavities of the mucous matter separated from the blood by the glands of the guts, and lodged in their cavities; which not only moistens the inside of the guts, but defends the mouth of the lacteal vessels from being injured by alien bodies, which often pass that way.

The contents of the intestines move still on, by means of the peristaltic motion of the guts; whilst those thinner parts, fitted to the pores of the lacteal vessels, are absorbed by them: the thicker move still more slowly on, and by the many stops they continually meet with by the con-nivent valves, all the chyle or thin parts are at length entirely absorbed; the remains being merely excrementitious, are only fit to be protruded by stool.

In the passage thro' the small intestines, the finer part of the mass, which we call the chyle (as has been already observed) enters the orifices of the lacteal vessels of the first kind, wherewith the whole mesentery is intermixed, which either alone, or together with the meseraic veins, discharge themselves into the glands, at the basis of the mesentery.

Then the chyle is taken up by the lacteals of the second kind, and is conveyed into glands between the two tendons of the diaphragm, called Pecquet's reservoir; whence it is carried to the heart by the thoracic duct, and the subclavian vein: and here it first mixes with the blood, and in time becomes assimilated thereto.

CHYLOSIS, among physicians, the act of reducing the aliment in the stomach to chyle, being the same with chylification. See the article **CHYLIFICATION**.

It is frequently also called *concoctio prima*, or the first concoction.

CHYME, or **CHYMUS**, *χυμος*, in the common signification of the word, denotes every kind of humour which is incrassated by concoction, under which notion it comprehends all the humours fit or unfit for preserving and nourishing the body, whether good or bad. It frequently imports the finest part of the chyle, when separated from the fæces, and contained in the lacteal and thoracic duct.

See

See the article **CHYLIFICATION**.

In Galen, it signifies the gustatory faculty in animals.

CHYMISTRY, or **CHEMISTRY**. See the article **CHEMISTRY**.

CHYMOLOGY, an appellation given to such naturalists as have employed their time in investigating the properties of plants from their taste and smell.

CHYMOSIS, in medicine, the art of making or preparing chyme. See the article **CHYME**.

According to some, chymosis is the second concoction made in the body, being a repeated preparation of the most impure and gross part of the chyle, which being rejected by the lacteals, is imbibed by the meseraics, and carried to the liver, to be there purified and subtilized afresh.

CHYMOSIS is also a distortion of the eyelids, arising from an inflammation; also an inflammation of the cornea tunica in the eye.

CIBDELOPLACIA, in natural history, a genus of spars debased by a very large admixture of earth: they are opaque, formed of thin crusts, covering vegetables and other bodies, by way of incrustations.

Of this genus we have the following species: 1. A greyish-white one, with a rough surface. 2. A whitish-brown one: both these are friable. 3. A hard, pale-brown kind, which is the ostecolla of the shops. 4. The whitish-grey kind, with a smooth surface: this is the unicorn fossil and ceratites of authors. 5. The whitish-brown, coralloide kind.

CIBDELOSTRACIA, in natural history, terrene spars, destitute of all brightness or transparence, formed into thin plates, and usually found coating over the sides of fissures, and other cavities of stone, with congeries of them of great extent, and of plain or botryoide surfaces.

Of these there are usually reckoned seven kinds: the first is the hard, brownish-white cibdelostracium, found in Germany: the second is the hard, whitish cibdelostracium, with thin crusts, and a smother surface, found also in the Harts-forest in Germany: the third is the hard, pale-brown cibdelostracium, with numerous very thin crusts, found in subterranean caverns in many parts of England, as well as Germany: the fourth is the white, light and friable cibdelostracium, found also in Germany, but very rarely in any part of England: the fifth is the light,

hard, pale-brown cibdelostracium, with a smooth surface, found in almost all parts of the world: the sixth is the whitish, friable, crustaceous cibdelostracium, with a rougher surface, frequent in Germany and England; and the seventh is the brownish-white, friable cibdelostracium, with a dusty surface, found in several parts of Ireland, as well as Germany.

CIBOULS, in botany, the name of a species of onion. See **ONION**.

CICADA, the **BAUM-CRICKET**, in zoology, a genus of four-winged insects, of the order of the hemiptera, the characters of which are these: the antennæ are very short; the snout bent downwards; the wings are cruciated, or disposed in the form of a cross; the back is convex, and the thorax somewhat rounded. Of this genus there are a great many species, as the laternaria, ranatra, locustapulex, &c.

CICATRICULA, among natural historians, denotes a small whitish speck in the yolk of an egg, supposed to be the first rudiments of the future chick. See the article **EGG**.

CICATRISIVE, or **CICATRIZANT MEDICINES**. See the article **CICATRIZANTS**.

CICATRIX, in surgery, a little seam or elevation of callous flesh rising on the skin, and remaining there after the healing of a wound or ulcer. It is commonly called a scar.

In young infants these scars diminish much, and sometimes vanish quite when they come to age, as may be seen in the pits of the small-pox; and in growing, they are sometimes observed to change their situation.

A surgeon in curing a wound, ought to be very industrious to procure an even cicatrix; for which purpose it will be proper to dry by degrees, and to harden the surface of the new flesh, by the application of dry lint covered with a light bandage: but when this is not sufficient, it may be proper to use some of the drying essences or native balsams, or drying powders; such as tutia, lapis calaminaris, mastiches or colophonium. Rectified spirits of wine, which is of an astringent drying virtue, is frequently used for this purpose with great advantage. See the article **WOUND**.

CICATRIZANTS, in pharmacy, medicines which assist nature to form a cicatrix. Such are arminian bole, powder of

of tuffy, *dissecativum rubrum*, &c.

Cicatrizants are otherwise called escharotics, epulotics, incarnatives, agglutinants, &c.

CICER, the **CHICH-PEA**, in botany, a genus of the diadelphic-decandria class of plants, the flower of which is papilionaceous; the fruit is a turgid pod, of a rhomboid shape, containing two roundish seeds.

The seeds of this plant are accounted in some measure absterfive, and for that reason are met with in diuretic compositions in the official medicines: but they are very seldom found in other prescriptions. Chich-pease were the provision of the ancient Hebrews when they took the field. They parched them, and so eat them; and at this day, in Egypt, it is usual for those who undertake a long journey, to lay in a good stock of chich-pease, parched in a frying-pan.

CICERONIANS, **CICERONIANI**, or **CICERONIASTRI**, epithets given by Muræus, Erasimus, Nicholas, Sufius, &c. to those moderns who were so ridiculously fond of Cicero, as to reject every latin word as obsolete or impure, that could not be found in some one or other of his works.

CICORIUM, **SUCCORY**, in botany, a genus of the syngenesia-polygamia-aqualis class of plants, the compound flower of which is plain and uniform: the proper one, monopetalous, ligulated, truncated, and deeply quinqueidentated; there is no pericarpium, but the cylindrical cup, connivent at the top, contains solitary compressed seeds with acute angles. See plate XLI. fig. 9.

This plant is regarded in all the shop-compositions, where it is concerned, as an hepatic. We seldom meet with it in extemporaneous prescriptions, unless in a few medicated ales.

CICINDELA, in zoology, the same with the *pyrolampis*, or glow-worm, a genus of insects, the antennæ of which are setaceous, and slender as a thread; the jaws are prominent and dentated; and the thorax is of a roundish but somewhat angulated figure. See plate XLI. fig. 10. Of this genus authors enumerate the following species. 1. The field or green glow-worm, with ten white spots on the exterior wings. 2. The black glow-worm, with six white spots on the exterior wings, common in woody places. 3. The brassy glow-worm, with broad excavated spots on the wings, common

about the banks of rivers. 4. The black glow-worm, with a reddish thorax; and several other species, distinguished by the like peculiarities.

CICLA, in ichthyology, a small fish with a yellow or gold-coloured iris, and a broad tail, not forked.

It is made a distinct genus, whereof there are two species. 1. The larger cicla, called *turdus major*, about a span in length. 2. The lesser cicla, or *turdus minor*, seldom exceeding a hand's breadth in length.

CICUTA, **WATER-HEMLOCK**, in botany, a genus of the pentandria-digynia class of plants, the universal flower of which is uniform; the proper one consists of five oval, cordated, inflected, and almost equal petals, disposed in the manner of a rose; there is no pericarpium; the fruit is roundish, striated, and divisible into two parts; the seeds are two, subovated, convex and striated on one side, and plain on the other. See plate XLI. fig. 11.

CICUTA is also Tournefort's name for the common hemlock or conium of Linnæus. See the article **CONIUM**.

CIDARIS, in antiquity, the mitre used by the jewish high priests. The Rabbins say, that the bonnet used by priests in general, was made of a piece of linen-cloth sixteen yards long, which covered their heads like a helmet or a turban; and they allow no other difference between the high priest's bonnet, and that of other priests, than this, that one is flatter and more in the form of a turban; whereas that worn by ordinary priests, rose something more in a point. A plate of gold was an ornament peculiar to the high priest's mitre.

CIDARIS, in conchyliology, the name by which authors call the turban-shell, or *centronia*, of a roundish figure. See the article **CENTRONIA**.

CIDER, or **CYDER**. See the article **CYDER**.

CIFALU, or **CEFALEDI**, a port-town of Sicily, thirty-six miles east of Palermo; east longitude $13^{\circ} 32'$, north latitude $38^{\circ} 30'$.

CILIA, the **EYE-LASHES**, in anatomy, are certain rigid hairs situated on the arch or tarsus of the eye-lids, and bent in a very singular manner.

They are destined for keeping external bodies out of the eye, and for moderating the influx of light.

CILIARE, or **LIGAMENTUM CILIARE**,
or

or **CILIARIS PROCESSUS**, in anatomy, a range of black fibres disposed circularly, having their rise in the inner part of the uvea, terminating in the prominent part of the chryalline humour of the eye, which they surround.

M^r. Mariotte denies the ligamentum ciliare to have any connection with the chryalline, or to serve for any purposes thereof; but Dr. Porterfield, in the medical essays of Edinburgh, thinks that it accommodates the chryalline to the distances of objects; from whence he accounts for the phenomena of vision, as also of diseases; as, 1. When the ciliare ligamentum becomes paralytic, no near object will appear distinct. 2. If this ligament should be convulsed, no distant object will appear distinct. 3. If it should be paralytic on one side, and sound on the other, the chryalline must get an oblique situation, when we look at near objects; whence they will not appear distinct, unless the eye be turned aside from the object. 4. When this ligament has become rigid and stiff, the chryalline will have but very little motion, when the limits of distinct vision will be very narrow.

CILIARIS, in anatomy, the same with the orbicular muscle of the eye. See the article **ORBICULARIS**.

CILIATED LEAF, among botanical writers, one surrounded all the way with parallel filaments, somewhat like the hairs of the eye-lids; whence its name.

CILICIUM, in hebrew antiquity, a sort of habit made of coarse stuff, formerly in use among the Jews in times of mourning and distress. It is the same with what the septuagint and hebrew versions call sack-cloth. St. John, in the Revelations, plainly shews that these sack-cloths, or, as they are otherwise called, hair-cloths, were of a black colour.

CILLEY, the capital of a territory of the same name in Stiria, and the circle of Austria, in Germany; east longitude 15° 35', north latitude 46° 35'.

CIMA, or **SIMA**, in architecture, the same with cymatium or ogee. See the article **OGEE**.

CIMELIANTHUS, in natural history, the name of a species of *oculus beli*, with a yellow pupil in the middle. See the article **OCULUS BELI**.

CIMEX, **BUG**, in zoology, a genus of four-winged flies, of the order of the hemiptera, the characters of which are these;

the rostrum or snout is inflected, or-bent towards the breast; the wings are cruciated; the legs are formed for running; the back is plain, and the thorax margined. See plate **XLI**. fig. 12.

Of this genus there are a great many species, some of which are roundish, and others of an oblong body. 1. The green and yellow bug. 2. The common house bug. 3. The blackish bug. 4. The grey bug. 5. The reddish bug. 6. The black bug, with white wings. 7. The oblong, reddish-brown bug. 8. The oblong, green bug. 9. The oblong bug, variegated with red and black. 10. The oblong, grey bug. 11. The oblong, black bug. 12. The oblong, greenish white bug; and a great many other species, distinguished by the like peculiarities.

For a method of destroying the house-bug, see the article **BUG**.

CIMOLIA TERRA, in natural history, a species of white marle, which is ponderous and friable, and makes a considerable effervescence with aqua-fortis.

The antients prescribed this earth with success, it is said, in St. Anthony's fire, inflammations, and the like external ailments, to be applied by way of a cataplasm; and made the same use of it for cleaning cloaths, as we now do of fuller's-earth. See the article **FULLER'S-EARTH II**.

CIMOLIA ALBA, a name given to the hard, heavy, white clay, whereof tobacco-pipes are made.

Its distinguishing characters are, that it is a dense, compact, heavy earth, of a dull white colour, and very close texture; it will not easily break between the fingers, and slightly stains the skin in handling. It adheres firmly to the tongue; melts very slowly in the mouth, and is not readily diffusible in water. It is found in many places. That of the isle of Wight is much esteemed for its colour. We have vast plenty of it also near Pole in Dorsetshire, and near Weddensbury in Staffordshire.

CINALOA, a province of Mexico, in North America, lying on the Pacific ocean, opposite to the south end of California.

CINCA, a river of Spain, which, arising in the Pyrenean mountains, and running south-east through Arragon, falls into the river Ebro.

CINCHONA, in botany, a genus of the pentandria-

pentandria-monogynia class of plants, the flower of which is monopetalous and infundibuliform: the fruit is a roundish bilocular capsule, crowned with a cup, and opening into two parts from the base to the apex, containing several oblong, compressed, margined seeds.

This is the tree which produces the quinquina, or peruvian bark. See the article **QUINQUINA**.

CINCLUS, in ornithology, a species of tringa, with the tip of the beak punctuated, and the back greenish. See the article **TRINGA**.

CINCTURE, or **CEINTURE**, in architecture, a ring, list, or orlo at the top and bottom of the shaft of a column, separating the shaft at one end from the base, and at the other from the capital. See the articles **COLUMN** and **SHAFT**.

That at bottom is particularly called apophyge, as if the pillar took its rise from it; and that at top colarin, colar, or collier, and sometimes annulus. See the articles **APOPHYGE** and **COLARIN**.

The cincture is supposed to be in imitation of the girts or ferrils, which were used by the antients to strengthen and preserve the primitive wooden columns.

CINERARIA, in ornithology, the name by which Linnæus calls the grey motacilla. See the article **MOTACILLA**.

CINERES, **ASHES**, in natural history, &c. See the article **ASHES**.

CINERES CLAVELLATI, among chemists, the ashes of tartar, or lees of wine.

From the great quantity of sea-salt so frequently found in cineres clavellati, Dr. Degner suspects that the sea-salt is designedly mixed with these ashes, because it is cheaper.

CINERITIOUS, an appellation given to different substances; on account of their resembling ashes, either in colour or consistence: hence it is, that the cortical part of the brain, has sometimes got this epithet. See the article **BRAIN**.

CINGULUM SAPIENTIÆ, a name given by the inventor Rulandus to a quick-silver girdle. See **GIRDLE**.

CINNA, in botany, a genus of the monandria digynia class of plants; the corolla consists of a bivalve compressed linear glume, there is no pericarpium; the seed, which is single and cylindric, is included in the cup, which is also a bivalve compressed linear glume carinated, acuminate, and containing one only flower.

CINNABAR, in natural history, is either native or facitious. The native cinnabar

is an ore of quick-silver, moderately compact, very heavy, and of an elegant, striated red colour. In this ore the quick-silver is blended in different proportions with sulphur. It is so rich an ore, as to be no other than mercury impregnated with a small quantity of sulphur, just enough to reduce it to that state, being commonly more than six parts of mercury to one of sulphur; and even the poorest cinnabar yields one half mercury: it is of a very bright, glittering appearance, when fresh broken; and is usually found lodged in a bluish, indurated clay, though sometimes in a greenish talcy stone. For the method of separating mercury from cinnabar, see the article **MERCURY**.

Facitious CINNABAR, a mixture of mercury and sulphur sublimed, and thus reduced into a fine red glebe. The best is of a high colour, and full of fibres, like needles.

The receipt for making it, according to the late college dispensatory, is as follows. Take of purified quick-silver, twenty-five ounces; of sulphur, seven ounces; melt the sulphur, and stir the quick-silver into it while fluid; if it take fire, let it be immediately extinguished, by covering it with another vessel. When cold, let it be rubbed into a fine powder. Let this powder be put into a subliming vessel, and setting it over a gentle fire, raise it by degrees till the whole is sublimed into a red, striated, heavy mass, which perfectly resembles native cinnabar. This, as well as the native cinnabar, is excellent in epilepsies, and in all complaints of the head and nerves. But the facitious is rather to be preferred, as it doth not excite nauseas, vomitings, and other disorders which arise from vitriolic and perhaps arsenical particles blended by nature among some of the masses of the native mineral.

Cinnabar is likewise used by painters as a colour, and is rendered more beautiful, by grinding it with guin-water and a little saffron.

There is likewise a blue cinnabar, made by mixing two parts of sulphur with three of quick-silver and one of sal armoniac.

CINNABAR of antimony, a preparation of mercury, sulphur, and antimony, made by sublimation, said to be a good diaphoretic and alterative. See the article **ANTIMONY**.

CINNAMON-TREE, *cinnamomum*, in botany, is only a species of the laurus, according to Linnæus; distinguished by

its oblong, ovated, trinervous, and plain leaves. See the article LAURUS.

The bark of this tree is the cinnamon of the shops, which to be good, ought to be of a reddish colour, not simply brown, and above all things, of an acrid and agreeable taste. The greatest deceits that are practised in the sale of cinnamon, are the selling such as has already had its essential oil distilled from it, and been dried again, and the imposing the *cassia lignea* in its place. The first of these cheats is discovered by the want of pungency in the cinnamon; the second, by this, that the cassia, when held a little time in the mouth, becomes mucilaginous, which is not the case with the true cinnamon.

No cinnamon can be imported into Britain, except from the East-Indies. That which comes from thence pays a duty of 3 s. 4 ⁸/₁₀ d. a pound, and draws back

on exportation, 3 s. 0 ²⁹/₁₀₀ d. at the rate

of 6 s. 8 d.

Cinnamon is an astringent in the *prima via*, but in the more remote seats of action, it operates as an aperient and alexipharmic. It stops diarrhoeas, promotes the menses, and hastens delivery: it strengthens the viscera, assists concoction, dispels flatulencies, and is a very present cardiac. It affords an oil which will sink in water, and is of great esteem and much prescribed in extemporaneous practice. As it is much adulterated on account of its dearness, the best way to know it is by dropping it upon sugar, and then dissolving it in small spirit. This oil has been made genuine in England from the common cinnamon of the shops, so as to exceed that brought from Holland.

CINNAMON-WATER is made by distilling the bark first infused in spirit of wine, brandy, or white-wine.

Clove-CINNAMON is the bark of a tree growing in Brazil, which is often substituted for real cloves.

White CINNAMON, called also winter's bark, is the bark of a tree frequent in the islands of St. Domingo, Guadaloupe, &c. of a sharp biting taste like pepper. Some use it instead of nutmeg; and in medicine it is esteemed a stomachic and antiscorbutic. See the article WINTER'S BARK.

CINOLOA, or CINALOA, the capital of the province of Cinaloa, in North America, about thirty miles east of the bay of California; west long. 113°, north lat. 25°. See the article CINALOA.

CINQUEFOIL, *quinquefolium*, in botany, the same with the potentilla of Linnæus.

See the article POTENTILLA.

Cinquefoil-roots are esteemed drying, astringent, and antifebrile; and accordingly have been prescribed with success in agues, and fluxes of all kinds.

CINQUE-PORTS, *cinque portus*, five havens that lie on the east part of England towards France, so called, by way of eminence, on account of their superior importance; having been thought by our kings to merit a particular regard for their preservation against invasion. Hence they have a particular policy, and are governed by a keeper, with the title of lord-warden of the Cinque-ports.

They have various privileges granted them, as a peculiar jurisdiction; their warden having not only the authority of an admiral among them, but sending out writs in his own name. Their members of parliament are called barons of the Cinque-ports. Camden says, that William the Conqueror first appointed a warden of the Cinque-ports; but king John first granted them their privileges, and that upon condition they should provide a certain number of ships at their own charge for forty days, as often as he had occasion for them in the wars, he being then under a necessity of having a navy to recover Normandy; which service the barons of the Cinque-ports performed.

The five ports are Hastings, Romney, Hythe, Dover, and Sandwich; to which we may add Winchelsea, Rye, and Seaford. There are also several other towns adjoining, which have the privileges of the ports. These Cinque-ports have certain franchises, and the king's writs do not run there. The constable of Dover-castle is lord-warden of the Cinque-ports; and there are several courts within the Cinque-ports; one before the lord-warden, others within the ports themselves, before the mayor and jurats, and another, called Curia quinque portuum apud Shepway. There is likewise a court of Chancery in the Cinque-ports, to decide matters of equity, but no original writs issue thence.

CINQUE-PORT is also a particular kind of fishing-net much used in standing water, so called on account of the five entrances into it.

CINTRA, a cape and mountain of Portugal, in the province of Estremadura, usually called the rock of Lisbon, situated on the north side of the entrance of the river

river Tagus: west longitude $10^{\circ} 15'$, north latitude 39° .

CINYRA, or **CINNOR**, in jewisb antiquity, generally translated cithara, lyra, &c. a musical instrument used before the flood, and invented by Jubah the son of Lamech. It was on the cinyra that David played before Saul; and this was the instrument, which the captive Levites hung upon the willows of Babylon. It was made of wood, and was played on in the temple of Jerusalem. Josephus says, that the cinyra of the temple had ten strings, and was touched with the bow. See the article **CITHARA**.

CION, or **CYON**, among gardeners, denotes a young sprig, or sprout of a tree.

CION, in anatomy, a name sometimes used for the uvula. See the article **UVULA**.

CIPHER, or **CYPHER**, one of the arabic characters, or figures, used in computation, formed thus 0.

A cypher of itself signifies nothing; but when placed after other characters, in whole numbers, it augments their value ten times; and when placed before other characters in decimal arithmetic, it lessens the value in each figure in the same proportion.

CIPHER is also a kind of enigmatic character, composed of several letters interwoven, which are generally the initial letters of the person's names for whom the ciphers are intended.

These are frequently used on seals, coaches, and other moveables. Merchants likewise, instead of arms, bear a cipher, or the initial letters of their names interwoven about a cross, of which we have many instances on old tombs.

CIPHER denotes likewise certain secret characters disguised and varied, used in writing letters that contain some secret, not to be understood but by those between whom the cipher is agreed on.

De la Guilletiere, in a book intitled *Antient and modern Lacedæmon*, pretends that the antient Spartans were the inventors of the art of writing in cipher, making their scytala the first sketch of that mysterious art. See **SCYTALA LACONICA**. Polybius relates, that Æneas Tacticus, two thousand years ago, collected together twenty different manners of writing so as not to be understood by any but those in the secret; part of which were invented by himself, and part used before his time.

There are several kinds of ciphers, according to lord Bacon; as the simple,

those mixed with non-significants, those consisting of two kinds of characters, wheel-ciphers, key-ciphers, word-ciphers, &c. They ought all to have these three properties, 1. They should be easy to write and read. 2. They should be trusty and undecipherable. And, 3. Clear of suspicion.

There is a new way of eluding the examination of a cipher, *viz.* to have two alphabets, the one of significant, and the other of non-significant letters; and folding up two writings together, the one containing the secret, while the other is such as the writer might probably send without danger; in case of a strict examination, the bearer is to produce the non-significant alphabet for the true, and the true for the non-significant; by which means the examiner would fall upon the outward writing, and, finding it probable, suspect nothing of the inner. No doubt the art of ciphering is capable of great improvement. It is said that king Charles I. had a cipher consisting only of a straight line differently inclined: and there are ways of ciphering by the mere punctuation of a letter, whilst the words of a letter shall be non-significants, or sense that leaves no room for suspicion. Those who desire a fuller explanation of ciphering, may consult Bacon, where they will find a cipher of his invention; Bishop Wilkin's Secret and Swift Messenger; and Mr. Falconer's Cryptomenyis patefacta.

CIPHER with a single key, that in which the same character is constantly used to express the same word or letter.

CIPHER with a double key, that in which the alphabet or key is changed in each line, or in each word; and wherein are inserted many characters of no significance, to perplex the meaning.

CIPHERING, or **CYPHERING**, a term sometimes used for the practical part of arithmetic. See **ARITHMETIC**.

CIPPUS, in antiquity, a low column, with an inscription, erected on the high roads, or other places, to shew the way to travellers, to serve as a boundary, to mark the grave of a deceased person, &c.

Those erected in the high-ways to mark the miles, were called milliary columns.

CIPPUS is also the name of a wooden instrument with which criminals and slaves were punished, being a clog or stocks for the feet.

CIRCEA, **ENCHANTERS NIGHTSHADE**, in botany, a genus of the diandria-mono-gynia

negynia class of plants, the flower of which consists of cordated petals, equal in height, and spread open; the fruit is an oval or pear-like bilocular capsule, containing single oblong seeds.

CIRCASSIA, a country situated between 40° and 50° east longitude, and between 45° and 50° north latitude.

It is bounded by Russia on the north, by Astracan and the Caspian sea on the east, by Georgia and Dagistan on the south, and by the river Don and the Palus Meotidis on the west.

The circassian Tartars form a kind of republic, but sometimes put themselves under the protection of Persia, and sometimes of Russia, or the Turks. They live mostly in tents, removing from place to place for the benefit of pasturage; and are chiefly remarkable for the beauty of their children, the seraglios of Turkey and Persia being usually supplied with boys and young virgins from this and the neighbouring country of Georgia.

CIRCENSIAN GAMES, *circenses ludi*, a general term, under which was comprehended all combats exhibited in the roman circus, in imitation of the olympic games in Greece. Most of the feasts of the Romans were accompanied with circensian games; and the magistrates, and other officers of the republic, frequently presented the people with them, in order to procure their favour. The grand games were held for five days, commencing on the fifteenth of September. There were six kinds of games exhibited: the first was wrestling, and fighting with swords, with staves, and with pikes; the second was racing; the third, *saltatio*, leaping; and fourth, *disce*, quoits, arrows, and cestus; all which were on foot; the fifth was horse-coursing: the sixth, courses of chariots, whether with two horses or with four.

CIRCLE, *circulus*, in geometry, a plane figure comprehended by a single curve line, called its circumference, to which right lines, or radii, drawn from a point in the middle, called the center, are equal to each other.

The area of a circle is found by multiplying the circumference by the fourth part of the diameter; or half the circumference by half the diameter: for every circle may be conceived to be a polygon of an infinite number of sides, and the semidiameter must be equal to the perpendicular of such a polygon, and the circumference of the circle equal to the peri-

phery of the polygon: therefore half the circumference multiplied by half the diameter, gives the area of the circle.

Circles, and similar figures inscribed in them, are always as the squares of the diameters; so that they are in a duplicate ratio of their diameters, and consequently of their radii.

A circle is equal to a triangle, the base of which is equal to the periphery, and its altitude to its radius: circles therefore are in a ratio compounded of the peripheries and the radii.

To find the proportion of the diameter of a CIRCLE to its circumference. Find, by continual bisection, the sides of the inscribed polygon, till you arrive at a side subtending any arch, howsoever small; this found, find likewise the side of a similar circumscribed polygon; multiply each by the number of the sides of the polygon, by which you will have the perimeter of each polygon. The ratio of the diameter to the periphery of the circle will be greater than that of the same diameter to the perimeter of the circumscribed polygon, but less than that of the inscribed polygon. The difference of the two being known, the ratio of the diameter to the periphery is easily had in numbers very nearly, though not justly true. Thus Archimedes fixed the proportion at 7 to 22.

Wolffius finds it as 1000000000000000 to 31415926535897932; and the learned Mr. Machin has carried it to one hundred places, as follows: if the diameter of a circle be 1, the circumference will be 3.14159, 26535, 89793, 23846, 26433, 83279, 50288, 41971, 69399, 37510, 58209, 74944, 59230, 78164, 05286, 20899, 86280, 34825, 34211, 70679 of the same parts. But the ratios generally used in practice are that of Archimedes, and the following; as 106 to 333, as 113 to 355, as 1702 to 5347, as 1815 to 5702, or as 1 to 3.14159.

To describe a CIRCLE through three given points, ABC (plate XLI. fig. 13. N^o. 1.) not in a right line. Draw two right lines from A to B, and from B to C; then divide these two right lines into two equal parts, by the perpendiculars GH and FE: the point of their intersection D will be the center of the circle required. Hence it follows, 1. That three points in the periphery or arch of any circle being given, the center may be found, and the arch perfected. 2. If three points of any periphery coincide with three points

points of another; the whole peripheries agree, and the circles are equal. 3. Every triangle may be inscribed in a circle.

The quadrature of the CIRCLE, or the manner of making a square, whose surface is perfectly and geometrically equal to that of a circle, is a problem that has employed the geometricians of all ages. See the article *QUADRATURE*.

Many maintain it to be impossible; Des Cartes, in particular, insists on it, that a right line and a circle being of different natures, there can be no strict proportion between them; and in effect we are at a loss for the just proportion between the diameter and circumference of a circle.

Archimedes is the person who has come nearest the truth: all the rest have made paralogisms. Charles V. offered a reward of one hundred thousand crowns to the person who should solve this celebrated problem; and the states of Holland have proposed a reward for the same purpose.

CIRCLE of the higher kind, an expression used by Wolfius, and some others, to denote, for the most part, a curve expressed by the equation $y^m = ax^m - 1 - x^m$,

which indeed will be an oval when m is an even number; but when m is an odd number, the curve will have two infinite legs, as suppose $m=3$, then the curve *FAMG* (plate *XLI. fig. 13. n° 2.*) expressed by the equation $y^3 = ax^2 - x^3$, where $AP=x$, $PM=y$, and $AB=a$ will be one of Sir Isaac Newton's defective hyperbolas, being, according to him, the thirty-seventh species, whose asymptote is the right line *DE* at half right angles with the absciss *HI*.

CIRCLES of the sphere are such as cut the mundane sphere, and have their periphery either on its moveable surface, or in another immoveable surface; the first revolve with its diurnal motion, as the meridians, &c. the latter do not revolve, as the equator, the ecliptic, &c.

If a sphere be cut in any manner, the plane of the section will be a circle, whose center is in some diameter of the sphere. Hence the diameter of a circle passing through the center, being equal to that of the circle which generated the sphere; and that of a circle which does not pass through the center, being only equal to some chord of the generating circle; the diameter being the greatest of all chords, there arises another division of the circles of a sphere, into great and less.

Great CIRCLE of the sphere, that which

having its center in the center of the sphere, divides it into two equal hemispheres; such are the equator, ecliptic, horizon, the colures, and the azimuths, &c. See *EQUATOR*, *ECLIPTIC*, &c.

Lesser CIRCLE of the sphere, that which having its center in the axis of the sphere, divides it into two unequal parts: these are usually denominated from the great circles to which they are parallel, as parallels of the equator.

CIRCLES of altitude. See *ALMUCANTARS*.

Diurnal CIRCLES are immoveable circles, supposed to be described by the several stars and other points of the heavens, in their diurnal rotation round the earth; or rather, in the rotation of the earth round its axis.

CIRCLE of curvature, a circle, the curvature of which is equal to that of a certain curve at a given point.

CIRCLE equant, in the old astronomy, a circle described on the center of the equant, the principal use of which is to find the variation of the first inequality.

CIRCLES of excursion are parallel to the ecliptic, and usually fixed at ten degrees from it, that the excursions of the planets towards the poles of the ecliptic may be included within them.

All these circles of the sphere are conceived to fall perpendicularly on the surface of the globe, and so to trace out circles perfectly similar to them. Thus the terrestrial equator is a line precisely under the equinoctial in the heavens, and so of the rest.

CIRCLES of latitude, or *secondaries of the ecliptic*, are great circles perpendicular to the plane of the ecliptic, passing through the poles of it, and through every star and planet. They serve to measure the latitude of the stars, which is an arch of one of those circles intercepted between the star and the ecliptic.

CIRCLES of longitude are several lesser circles parallel to the ecliptic, still diminishing in proportion as they recede from it; on these the longitude of the stars is reckoned.

CIRCLES of declination, on the globe, are, with some writers, the meridians on which the declination or distance of any star from the equinoctial is measured.

Horary CIRCLES, in dialling, are the lines which shew the hours on dials, though these be not drawn circular, but nearly straight.

Horary CIRCLE, on the globe, a brazen circle fixed on every globe with an index,

to shew how many hours, and consequently how many degrees any place is east or west of another.

CIRCLE of perpetual apparition, one of the lesser circles, parallel to the equator, described by any point touching the northern point of the horizon, and carried about with the diurnal motion: all the stars included within this circle are always visible above the horizon.

CIRCLE of perpetual occultation, another circle at a like distance from the equator, on the south, containing all those stars which never appear in our hemisphere.

Polar CIRCLES are parallel to the equator, and at the same distance from the poles that the tropics are from the equator. See the articles **ARCTIC** and **ANTARCTIC**.

CIRCLES of position are circles passing thro' the common intersections of the horizon and meridian, and through any degree of the ecliptic, or the center of any star, or other point in the heavens; and are used for finding out the situation or position of any star. These are called by astrologers, circles of the celestial houses.

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| <i>Arch of a CIRCLE,</i> <i>Antarctic CIRCLE,</i> <i>Arctic CIRCLE,</i> <i>Axis of a CIRCLE,</i> <i>Center of a CIRCLE,</i> <i>Concentric CIRCLE,</i> <i>Eccentric CIRCLE,</i> <i>Fairy CIRCLE,</i> <i>Secondary CIRCLE,</i> <i>Segment of a CIRCLE,</i> VERTICAL CIRCLES. | } } See } | ARCH. ANTARCTIC. ARCTIC. AXIS. CENTER. CONCENTRIC. ECCENTRIC. FAIRY. SECONDARY. SEGMENT. See the articles VER- TICAL and AZIMUTH. |
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CIRCLE, in logic, or *logical CIRCLE*, is when the same terms are proved *in orbem* by the same terms; and the parts of the syllogism alternately by each other, both directly and indirectly. Thus the papists, who are famous at this false way of arguing, prove the scripture to be the word of God, by the infallible testimony of their church; and when they are called upon to shew the authority of their church, they pretend to prove it by the scripture. There are two kinds of circles, the one material, the other formal: the formal is that in which two reciprocal syllogisms beg the medium, which is the next cause of the greater extreme; if this is admitted, the same thing becomes both prior and posterior, the cause and effect of itself, which is absurd. The material circle, called also *regressus*, consists of two syllogisms, the former of which proves

the cause by the effect, and the latter the effect by the cause.

CIRCLE, circulus, among schoolmen, is understood of vicissitudes of generations arising one out of another: thus, vapours arise from moist grounds, rain is formed of vapours, and rain again moistens the ground. It is a celebrated dogma of the scotists, that there is no circle in causes of the same order or kind.

CIRCLES of the empire, such provinces and principalities of the empire as have a right to be present at diets. Maximilian I. divided the empire into six, and some years afterwards into ten circles. This last division was confirmed by Charles V. The circles, as they stand in the Imperial Matricula, are as follows, Austria, Burgundy, the Lower Rhine, Bavaria, Upper Saxony, Franconia, Swabia, Upper Rhine, Westphalia, and the Lower Saxony.

CIRCOLO MEZZO, in the italian music, denotes a diminution of four quavers or semiquavers, which represent a semicircle, proceeding by conjoint degrees.

CIRCUIT, or CIRCUITY, in law, signifies a longer course of proceedings than is needful to recover the thing sued for; in case a person grants a rent-charge of 10l. a-year out of his manor, and afterwards the grantee disseises the grantor, who thereupon brings an assise, and recovers the land, and 20l. damages; which being paid, the grantee brings his action for 10l. of the rent, due during the time of the disseisin; this is termed circuitry of action, because as the grantor was to receive 20l. damages, and pay 10l. rent, he might only have received the 10l. for the damages, and the grantee might have retained the other 10l. for his rent, and by that means saved his action.

CIRCUIT also signifies the journey, or progress, which the judges take twice every year, through the several counties of England and Wales, to hold courts, and administer justice, where resource cannot be had to the king's courts at Westminster; hence England is divided into six circuits, *viz.* The home circuit, Norfolk circuit, Midland circuit, Oxford circuit, Western circuit, and Northern circuit.

In Wales there are but two circuits, North and South Wales; two judges are assigned by the king's commission to every circuit.

In Scotland there are three circuits, *viz.* the

the Southern, Western, and Northern, which are likewise made twice every year, viz. in spring and autumn.

CIRCULAR, in a general sense, any thing that is described or moved in a round, as the circumference of a circle, or surface of a globe.

The circular form is of all others the best disposed for motion, and the most capacious.

CIRCULAR LETTER, a letter directed to several persons, who have the same interest in some common affair.

CIRCULAR LINES, in mathematics, such straight lines as are divided from the divisions made in the arch of the limb, such as sines, tangents, secants, chords, &c. See the articles **SINE** and **TANGENT**.

CIRCULAR NUMBERS, called also spherical ones, according to some, are such whose powers terminate in the roots themselves.

Thus, for instance, 5 and 6, all whose powers do end in 5 and 6, as the square of 5 is 25, the square of 6 is 36, &c.

CIRCULAR SAILING is the method of sailing by the arch of a great circle. See the article **SAILING**.

CIRCULAR VELOCITY, in the new astronomy, signifies the velocity of any planet, or revolving body, which is measured by the arch of a circle. See **CIRCLE**.

CIRCULATION, the act of moving round, or in a circle; thus we say, the circulation of the blood, the circulation of the sap, of the spirits, &c.

CIRCULATION of the blood, the natural motion of the blood in a living animal, whereby that fluid is alternately carried from the heart to all parts of the body by the arteries, and returned from the same parts to the heart by the veins.

This motion is chiefly caused by the dilatation and contraction of the heart, and is the principle on which life depends; for when it ceases in any part, it dies; when it is diminished, the operations are weak; and when it ceases totally, life is extinguished. See the articles **BLOOD**, **HEART**, **ARTERY**, and **VEIN**.

All the veins discharge themselves into the ventricles of the heart; from hence all the arteries arise; the blood expelled out of the right ventricle must be carried, through the pulmonary artery, into the lungs; from which it must be returned, by the pulmonary veins, to the left ventricle; from the left ventricle the blood, thus imported, is, by the constriction of

that part, again expelled into the aorta, and by it distributed all over the rest of the body, and thence is returned again to the right ventricle by the cava, which completes the circulation.

This circulation becomes actually visible, with the assistance of a microscope, especially in fish, frogs, &c. wherein the inoculation, or union of the extremities of the arteries with those of the veins, together with the globules of the blood flowing from the one into the other, may be plainly seen, as represented in plate XLII. fig. 1.

The reasons evincing the circulation of the blood, are as follow:

1. All the blood of a living animal, upon wounding any of the larger arteries, is evacuated in a little time, and that with a considerable force; whence it follows, that the blood has a passage from every part of the animal body into every artery; and if the whole mass of blood be found to move upon this occasion, it is evident it must have moved before.

2. The great quantity of blood that is driven out of the heart into the arteries at every pulse, makes a circulation necessary; for though the ancients, who knew not this circulation, imagined that only a drop or two was expelled at every systole, which they were necessitated to suppose, to avoid the too great distention that the arteries must be liable to, from a more considerable influx; yet it is certain, and even demonstrable, that an ounce, or more, must be driven into them each time; and yet some compute there are five or six thousand pulsations in an hour.

3. A third argument may be taken from the valves in the veins, which are so formed, that blood may freely pass through them, out of the lesser veins into the greater, and so into the cava; but, on the contrary, not out of the greater into the less; yea, if one blow into the cava, through a pipe, there will no wind pass into the smaller veins; but, on the other hand, if you blow up the lesser veins, the wind will readily pass to the larger, and so to the cava.

4. Any of the arteries being tied up with a fillet, swell, and beat between the bandage and the heart, but they grow flaccid between the bandage and the extremities of the body; then, if the artery be cut between the bandage and the heart, blood streams out even to death; but if it be cut between the bandage and the
extre-

extremities of the body, the quantity of blood it yields is very small.

5. Any of the larger veins being tied up with a fillet, as in the letting of blood in the arm or foot, then the vein below the ligature will presently fill and grow tumid, but above it will presently fall and disappear: the reason of which must needs be, that the blood being driven along the arteries, towards the extreme parts, returns by the veins, and ascends upwards, which coming to the ligature, and being stoppt there, swells the vein below the ligature, and spurts out as soon as an orifice is made; but when the fillet is loosed again, the blood flows no longer out thereat, but holds on its wonted channel; and the vein and the orifice close up again.

From the whole it is evident that all the arteries of the body are continually bringing the blood from the left part of the heart, through the trunks of the arteries, into the branches, and from those to all parts of the body; and, on the contrary, that all the veins, except the porta, are perpetually bringing back the blood from the extreme parts into the smaller branches: from these it passes into the larger, at length into the trunks, and thence into the cava, and through the sinus venosus into the heart, where being arrived, its motion or circulation is continued as follows.

The auricles of the heart being large hollow muscles, furnished with a double series of strong fibres, proceeding with a contrary direction to the opposite tendons, the one adhering to the right ventricle, the other to the sinus venosus; as also with innumerable veins and arteries; by the contractile force of these auricles, the blood will be vigorously expressed and driven into the right ventricle, which, upon this contraction, is rendered flaccid, empty, and disposed to admit it.

Now, if the right ventricle, thus full of blood, by the contraction of its fibres, press the blood towards the aperture again, the venous blood at the same time pouring in, will drive it back again into the cavity, and mix it more intimately, till rising up against the parietes, it raise the valvulæ tricuspidæ, which are so connected to the fleshy columns extended on the opposite side, as that, when laid quite down, they cannot close the parietes of the right ventricle; these it thrusts towards the right auricle, till being there joined,

they stop the passage very closely, and prevent any return.

By the same means, the same blood rises into three semilunar valves, placed in the extremity of the other mouth, and lying open to the pulmonary artery; these it shuts close against the sides of the artery, and leaves a passage into the artery alone: the blood carried by this artery into the lungs, and distributed by its branches through the whole substance thereof, is first admitted into the extremities of the pulmonary vein, called arteria venosa, whence passing into four large vessels, which unite together, it is brought to the left sinus venosus, or trunk of the pulmonary vein, by the force of whose musculous structure, it is driven into the left ventricle, which, on this occasion, is relaxed, and by that means prepared to receive it.

Hence, as before, it is driven into the left ventricle, which is relaxed by the same means; and by the valvulæ mitrales opening, admit it into the left ventricle, and hinder its flux into the pulmonary vein, from hence it is forced into the aorta, at whose orifice there are three semilunar valves, which also prevent a reflux by closing the same.

The motion of the blood in living animals is attended with the following phenomena: 1. Both the venous sinuses are filled, and grow turgid at the same time. 2. Both auricles grow flaccid at the same time, and both are filled at the same time with blood, impelled by the contractile force of its correspondent muscular venous sinus. 3. Each ventricle contracts and empties itself of blood at the same time; and the two great arteries are filled and dilated at the same time. 4. As soon as the blood, by this contraction, is expelled, both ventricles being empty, the heart grows larger and broader. 5. Upon which the muscular fibres of both venous sinuses contract, and express the blood contained in them, into the ventricle of the heart. 6. In the mean time the venous sinuses are again filled, as before, and the auricles, &c. return into their former habitude. 7. This alteration continues till the animal begins to languish under the approach of death, at which time the auricles and venous sinuses make several palpitations, for one contraction of the ventricle.

In a foetus, the apparatus for the circulation of the blood is somewhat different from

from that in adults, as above described. The septum, which separates the two auricles of the heart, is pierced through with an aperture, called the foramen ovale, and the trunk of the pulmonary artery, a little after it has left the heart, sends out a tube into the descending aorta, called the communicating canal. The foetus being born, the foramen ovale closes by degrees, and the canal of communication dries up, and becomes a simple ligament. Dr. Nichol, lecturer of anatomy at Oxford, has, in his Compend. Anatom. contradicted the common received doctrine of the motion of the heart, and of the circulation of the blood, both in adults and foetuses: he maintains, that the circulation of the blood depends on six motions; 1. Of the right auricle. 2. Right ventricle. 3. Pulmonary artery. 4. Left auricle. 5. Left ventricle. And, 6. of the aorta. Of these, the first, third, and fifth are synchronous, or act at the same time; as the second, fourth, and sixth likewise do; but the first, third, and fifth are asynchronous, or act at a different time from what the second, fourth, and sixth do, and therefore

The 2 auricles } are alternately { relaxed,
The 2 ventricles } & con-
The 2 arteries } tracted.

Concerning the circulation of the blood in foetuses, the doctor has the following propositions.

1. The blood of the ascending cava is fitter for nutrition, muscular motion, and the subtiler secretions, than the blood that is carried to the heart by the descending cava.

2. The ascending and descending aorta are dilated and contracted at different times, or have asynchronous motions:

3. The blood of the ascending cava is pushed to the heart at the time when the right auricle is contracted, and the left auricle is relaxed, and therefore it will not pass into the right auricle, and from that into the left, but must go immediately from the cava into the left auricle.

4. The blood which is sent from the left auricle into the left ventricle, consisting mostly of the blood of the ascending cava, is wholly distributed into the heart and branches of the ascending aorta.

5. The blood which flows from the descending cava into the heart, passes partly through the lungs into the left auricle, to be mixed with the blood of the ascending cava; partly passes into the descending aorta, not to be mixed with the blood of

the ascending artery, that the blood which is returned to the mother may be venous, weak, and poor (*effætus.*)

6. The canalis arteriosus being shut by respiration, the descending artery acquires a motion synchronous to that of the ascending artery; and the blood of the ascending cava is sent to the heart at the time when the left auricle is contracted, and the right auricle is relaxed, and therefore is wholly poured into the right ventricle, along with the blood of the descending cava.

7. The contents of the abdomen being pressed by respiration, the umbilical arteries, umbilical veins, and the ductus venosus are shut up.

8. The usual crying of new born infants contributes much to the distention of the lungs, and breaking down the particles of blood.

Dr. Whytt, in an enquiry into the causes which promote the circulation of the fluids in the very small vessels of animals, appears to have successfully controverted the opinions of those who have held the force of the heart, the contraction of the arteries, gravity, and the attraction of the capillary tubes, as the causes of such a circulation. He contends, that the principal cause of promoting the circulation of the fluids, is the vibratory motion of the small vessels of animals, and that they are possessed of such a motion, he urges from the testimony of many physiological writers, and from experiments and observations on the vessels of animals. The circulation, in imperfect animals which have no heart, nor any thing analogous to it, he observes, must be owing to the contractile power of the vessels, excited into action by the gentle stimulus of the fluids. He endeavours to shew an alternate contraction in the small vessels of animals, which is excited, more or less, according to the degree of irritation affecting them: and concludes, that as the motion of the blood in the larger vessels, and even capillaries of the first order, is owing to the alternate systole of the heart and arteries; so, in the serous lymphatic and still smaller vessels, where this force reaches not at all, or is greatly diminished, the circulation seems to be carried on chiefly by the vibratory motion of the vessels themselves; and the finer fluids being in this manner transmitted into the larger veins, the pulsation of neighbouring arteries, action of voluntary muscles, and alternate compression made upon all

the contents of the abdomen and thorax, by the motion of respiration, will promote their return to the heart along with the red blood in the *venæ cavæ*.

As to the velocity of the circulating blood, and the time wherein the circulation is completed, several computations have been made. By Dr. Keil's account, the blood is driven out of the heart into the *aorta* with a velocity which would carry it twenty-five feet in a minute: but this velocity is continually abated in the progress of the blood, in the numerous sections or branches of the arteries, so that before it arrive at the extremities of the body, its motion is infinitely diminished.

The space of time wherein the whole mass of blood ordinarily circulates, is variously determined: some state it thus, supposing the heart to make two thousand pulses in an hour, and that at every pulse there is expelled an ounce of blood; as the whole mass of blood is not ordinarily computed to exceed twenty-four pounds, it must be circulated seven or eight times over in the space of an hour.

The circulation of the blood is generally said to have been first discovered in England, in the year 1628, by Dr. Harvey, an ingenious and learned physician; tho' there are others who contend for the glory of this most important discovery:

Leonicens says, that Fran. Paoli Sarpi, a Venetian, discovered the circulation, but durst not publish his discovery for fear of the inquisition; that he therefore only communicated the secret to Fab. ab Aquapendente, who, after his death, deposited the book he had composed on it, in the library of St. Mark, where it lay a long time, till Aquapendente discovered the secret to Harvey, who then studied under him at Padua, and who, upon his return to England, a land of liberty, published it as his own. But Sir George Ent has shewn, that father Paul received the first notion of the circulation of the blood from Harvey's book on that subject, which was carried to Venice by the ambassador of the republic at the court of England.

The circulation of the blood was altogether unknown to the antients: they thought that all the blood came from the liver, and that the greatest part of it passed into the *vena cava*, and so into all the branches belonging to it; but in such a manner, that in coming out from the liver, a considerable quantity of it turns about, and enters into the right cavity of

the heart, where it is divided into two parts, one of which runs through the *vena arteriosa*, into the lungs, and the other through the *medium septum* into the left cavity; where they say it is converted into arterial blood, or vital spirits, which is carried into the lungs by the *arteria venosa*, and all over the body by the *arteria magna* and its branches.

CIRCULATION of the spirits or nervous juices. The circulation of the spirits is

evinced in the same manner as some authors chosse to prove the circulation of the blood, *viz.* that the heart drives out, every hour, three or four thousand ounces of blood, whereas ordinarily there is not above two thousand in the whole body, there is a necessity for the blood, driven out, to return to the heart, in order to supply a fund to be expelled.

In like manner it is shewn, that there is formed, each hour, a large quantity of spirits, which are nothing but the more subtle parts of the blood, driven out from the brain: whence it is inferred that these too must circulate.

CIRCULATION of the sap of vegetables, is a natural motion of the nutritious juice of plants, from the root to the extreme parts, and thence back again to the root.

That there is a circulation in the bodies of vegetables seems to be evinced by the experiments of modern naturalists and gardeners, by means of certain vessels analogous to the veins and arteries in animals. See the articles **PLANT** and **SAP**.

CIRCULATION, in chemistry, is an operation whereby the same vapour, raised by fire, falls back, to be returned and distilled several times, and this reduced into its most subtle parts.

Circulation is performed by disposing the liquor in a single vessel, stopped at top, and called a pelican; or in a double vessel, consisting of two pieces, luted on each other; the lower to contain the liquor, and its vapours. It is performed either by the heat of a lamp, or that of ashes or of sand moderately hot; or in dung, or by the sun. It usually demands a continued heat of several days, sometimes of several weeks, or even several months. By circulation the finest part of the fluid mounts to the top of the vessel, and finding no issue there, falls back again, and rejoins the matter at bottom, whence it arose.

CIRCULATION of money. It is the opinion of Mr. Pottlethwayt, that the money that

that carries on the whole circulation of a state, is near the quantity of one third part of all the annual rents of the proprietors of the land; and that where the proprietors have one half or two thirds of the produce of the land, and where the circulation is not much helped by barter and evaluations, the quantity of the money must certainly be greater.

CIRCULATORY, *circulatorium*, the chemical vessel wherein the operation of circulation is performed. See the article **CIRCULATION**.

CIRCULUS, **CIRCLE**, in geometry, logic, &c. See the article **CIRCLE**.

CIRCULUS, in chemistry, an iron instrument in form of a ring, which being heated red-hot, and applied to the necks of retorts and other glass vessels, till they grow hot, a few drops of cold water thrown upon them, or a cold blast, will make the necks fly regularly and evenly off.

Another method of doing this, is to tie a thread, first dipt in oil of turpentine, round the place where you would have it break; and then setting fire to the thread, and afterwards sprinkling the place with cold water, the glass will crack exactly where the thread was tied.

CIRCUMAGENTES MUSCULI, or **OBLIQUI MUSCULI**, in anatomy, are certain oblique muscles of the eyes, so called from helping to wind and turn the eyes about.

These muscles, called also the oblique muscles of the eye, or the rotatores, are two, a larger and a smaller: the larger, arising near the interior adducens, passes through a singular trochlea, of an almost cartilaginous structure, near the canthus of the eye, from thence it turns back, and is inserted into the upper part of the eye, near its middle; hence it obliquely depresses the pupil, and in some degree draws it outward.

The lesser arises from the anterior and inner part of the orbit, not far from the nasal canal: it surrounds obliquely the lower part of the bulb, and is inserted into its exterior part, near the middle; hence it moves the pupil of the eye obliquely upwards: both these obliqui acting together, draw the eye forwards; and thus they are antagonists of the recti, which draw it backwards.

CIRCUMAMBIENT, an appellation given to a thing that surrounds another on all sides; chiefly used in speaking of the air. See the article **AIR**.

CIRCUMCISION, the act of cutting off the prepuce; or a ceremony in the Jewish and Mahometan religions, wherein they cut off the fore-skin of their males, who are to profess the one or the other law. Circumcision, among the Jews, was a federal rite, annexed by God; as a seal to the covenant which he made with Abraham and his posterity, and was accordingly renewed, and taken into the body of the mosaical constitutions. The time for performing this rite was the eighth day, that is, six full days after the child was born: the law of Moses ordained nothing with respect to the person by whom, the instrument with which, or the manner how, the ceremony was to be performed; the instrument was generally a knife of stone. The child is usually circumcised at home, where the father, or godfather, holds him in his arms, while the operator takes hold of the prepuce with one hand, and with the other cuts it off; a third person holds a porringer, with sand in it, to catch the blood; then the operator applies his mouth to the part, and having sucked the blood, spits it into a bowl of wine, and throws a styptic powder upon the wound. This ceremony was usually accompanied with great rejoicings and feasting, and it was at this time that the child was named, in presence of the company. The Jews invented several superstitious customs at this ceremony, such as placing three stools, one for the circumcisor; the second for the person who holds the child; and the third for Elijah, who, they say, assists invisibly at the ceremony, &c.

The Jews distinguished their proselytes into two sorts, according as they became circumcised, or not: those who submitted to this rite were looked upon as children of Abraham, and obliged to keep the laws of Moses: the uncircumcised were only bound to observe the precepts of Noah, and were called *noachidæ*.

This ceremony, however, was not confined to the Jews: Herodotus and Philo Judæus observe, that it obtained also among the Egyptians and Ethiopians. Herodotus says, that the custom was very antient among each people, so that there was no determining which of them borrowed it from the other. The same historian relates, that the inhabitants of Colchis also used circumcision; whence he concludes, that they were originally Egyptians.

The Turks never circumcise till the se-

venth or eighth year, as having no notion of its being necessary to salvation. The Persians circumcise their boys at thirteen, and their girls from nine to fifteen. Those of Madagascar cut the flesh at three several times; and the most zealous of the relations present, catches hold of the preputium, and swallows it.

Circumcision is practised on women by cutting off the fore-skin of the clitoris, which bears a near resemblance and analogy to the preputium of the male penis. We are told that the Egyptian captive women were circumcised; and also the subjects of Prester John.

CIRCUMCISION is also the name of a feast, celebrated on the first of January, in commemoration of the circumcision of our Saviour.

CIRCUMFERENCE, in a general sense, denotes the line or lines bounding a plane figure. However, it is generally used in a more limited sense, for the curve line which bounds a circle, and otherwise called a periphery; the boundary of a right-lined figure being expressed by the term perimeter.

Any part of the circumference is called an arch, and a right line drawn from one extreme of the arch to the other, is called a chord.

The circumference of every circle is supposed to be divided into 360 degrees. The angle at the circumference of a circle is double that at the center. See the article **ANGLE**.

For the ratio of the circumference of a circle to its radius, see the article **CIRCLE**.

CIRCUMFERENTOR, an instrument used by surveyors, for taking angles.

It consists of a brass index and circle, all of a piece. The index is commonly about fourteen inches long, and an inch and a half broad; the diameter of the circle is about seven inches. On this circle is made a chart, whose meridian line answers to the middle of the breadth of the index, and is divided into 360 degrees. There is a brass-ring soldered on the circumference of the circle, on which screws another ring, with a flat glass in it, so as to form a kind of box for the needle, suspended on the pivot in the center of the circle. See plate XLII. fig. 2. n° 1. There are also two sights to screw on, and slide up and down the index; as also a spangle and socket screwed on the back side of the circle, for putting the head of the staff in.

How to observe the quantity of an angle by the CIRCUMFERENTOR.

Let it be required to find the quantity of the angle **E K G** plate XLII. fig. 2. n° 2. First, place your instrument at **K**, with the flower-de-luce of the chart towards you; then direct your sights to **E**, and observe what degrees are cut by the south end of the needle, which let be 296; then, turning the instrument about, direct your sights to **G**, noting then also what degrees are cut by the south end of the needle, which suppose 182. This done, always subtract the lesser from the greater, as in this example, 182 from 296, the remainder is 114 degrees, which is the true quantity of the angle **E K G**.

CIRCUMFLEX, in grammar, one of the accents. See the article **ACCENT**.

CIRCUMGYRATION, denotes the whirling motion, of any body round a center: such is that of the planets round the sun.

CIRCUMINCESSION, in theology, a term whereby the schoolmen used to express the existence of three divine persons in one another, in the mystery of the trinity.

CIRCUMLOCUTION, a paraphrastical method of expressing ones thoughts, or saying that in many words, which might have been said in few.

CIRCUMLOCUTION, in oratory, is the avoiding of something disagreeable, or inconvenient to be expressed in direct terms, by imitating the sense thereof in a kind of paraphrase, so conceived as to soften and break the force thereof.

CIRCUM-POLAR STARS, an appellation given to those stars, which by reason of their vicinity to the pole, move round it without setting.

CIRCUMSCRIBED, in geometry, is said of a figure which is drawn round another figure, so that all its sides or planes touch the inscribed figure.

CIRCUMSCRIBED HYPERBOLEA, one of Sir Isaac Newton's hyperbolas of the second order, that cuts its asymptotes, and contains the parts cut off within its own space.

CIRCUMSCRIBING, in geometry, denotes the describing a polygonous figure about a circle, in such a manner, that all its sides shall be tangents to the circumference.

Sometimes the term is used for the describing a circle about a polygon, so that each side is a chord; but in this case it is more usual to say the polygon is inscribed, than the circle is circumscribed.

CIR-

Fig. 1. CIRCULATION of the Blood.



Fig. 2. CIRCUMFERENTOR.

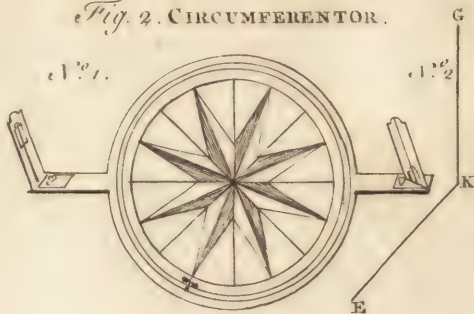


Fig. 4. CIVIC CROWN.



Fig. 3. Cissoïd.

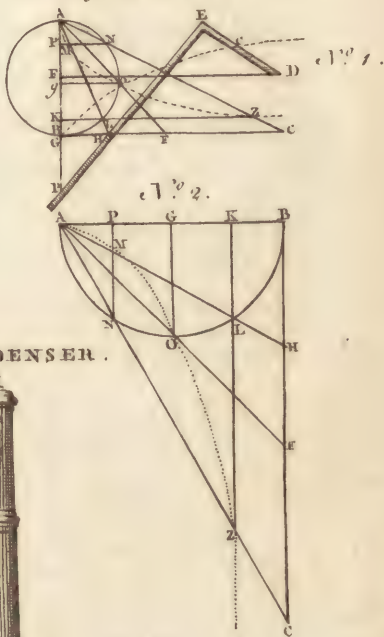


Fig. 5. CLARION.



Fig. 8. CONDENSER.



Fig. 6. CLECHE.



Fig. 7. CLEMATIS, VIRGIN'S BOWER.





CIRCUMSCRIPTION, in natural philosophy, the termination, bounds, or limits of any natural body.

They make it either internal, which belongs to the essence and quantity of every body, whereby it hath a certain determinate extension, bounds, and figure; or external, which they call also local, because it is referred to the place within which any body is confined: for a body is said to be circumscribed locally, or to be in a place circumscriptively, when it hath a certain and determinate *ubi*, or place, in respect of the circumambient bodies.

CIRCUMSTANCE, a particularity which, though not essential to any action, yet doth some way affect it.

Some circumstances are reckoned purely physical, not connecting any moral good or evil with any action; such as killing a man with a right or left hand, &c. others are accounted properly moral, because they do really influence our actions, and render them more good or evil than they would have been without such circumstances. Divines say, that the conversion of a sinner, depends on a certain assemblage and certain management of external circumstances, in the midst whereof he is placed; which arrangement of circumstances depends on the providence of God, whence conversion also depends on him.

The writers of ethics sum up all the circumstances of the actions of men in this one verse.

Quis, quid, ubi, quibus auxiliis, cur, quomodo, quando.

CIRCUMSTANTIBUS, in law, a term used for supplying and making up the number of jurors (in case any impannelled appear not, or appearing, are challenged by either party) by adding to them so many of the persons present, as will make up the number, in case they are properly qualified.

CIRCUMVALLATION, or *line of CIRCUMVALLATION*, in the art of war, is a trench bordered with a parapet, thrown up quite round the besieger's camp, by way of security against any army that may attempt to relieve the place, as well as to prevent desertion.

This trench ought to be at the distance of cannon shot from the place: it is usually twelve feet broad, and seven deep; and at small distances is flanked with redoubts, and other small works, or with field forts, raised on the most proper

eminences. It ought never to be drawn at the foot of a rising ground, lest the enemy seizing on the eminence, should erect batteries of cannon there, and so command the line.

CIRCUMVOLUTION, in architecture, denotes the torus of the spiral line of the ionic volute.

CIRCUS, in antiquity, a great building of a round or oval figure, erected by the antients, to exhibit shews to the people.

The roman circus was a large, oblong edifice, arched at one end, encompassed with porticoes, and furnished with two rows of seats, placed ascending over each other. In the middle was a kind of foot bank, or eminence, with obelisks, statues, and posts at each end. This served them for the courses of their bigæ and quadrigæ. See the articles, *BIGA*, &c.

Those that have measured the circus say, that it was 2187 feet long, and 960 broad; so that it was the greatest building in Rome: some say it would contain 150,000 people, others 260,000, or 300,000.

Julius Cæsar adorned it with magnificent buildings, which he encompassed with fine canals of water, called Euripi, to represent sea-fights in. The spectators sat on benches one above another, in the form of a hill. Augustus enlarged the circus, and erected an obelisk 125 feet high. Claudius built ornaments of marble for the dens of wild beasts, which were exhibited for the pleasures of the people, that before were made only of earth or wood. Caracalla painted and gilded divers parts of it; and lastly, Heliogabalus covered the floor with gold and silver dust, and he filled the pits with wine, on which he represented a sea-fight. The circus was dedicated to the sun, as a little temple of the sun in the middle denoted: some say that there were eight circuses in Rome, of which several were either through vanity or devotion built, for the ornament of the city. For the games, &c. of the circus, see the article *CIRCENSIAN*.

CIRENCESTER, a borough-town of Gloucestershire, situated on the river Churn, fifteen miles south-east of Gloucester: west long. 2°, north lat. 51° 42'. It sends two members to parliament.

CIRRI, among botanists, fine strings or thread-like filaments, by which some plants fasten themselves to walls, trees, &c. such are those of ivy.

CIRRI, in ichthyology, certain oblong and soft

soft appendages, not unlike little worms, hanging from the under jaws or mouths of some fishes: these cirri, commonly translated beards, afford marks to distinguish the different species of the fish on which they are found. As to their use, it may be to give notice of approaching danger, or prey; since by their hanging position, as well as by their soft texture, they must be more sensible of any motion in the water, than any other part.

CIRRIS, in ornithology, the brown ardea, with the head variegated with black and yellow. See the article **ARDEA**.

CIRSOCELE, or **HERNIA VARICOSA**, in surgery, a preternatural distension or dilatation of the spermatic veins in the process of the peritonæum; immediately above the testicle, and sometimes higher up in the scrotum, or even in the groin, inasmuch that they resemble the intestines of a bird, and equal the size of a goose quill, with varicose nodes, by which means the testicle appears much bigger, and hangs down lower than it should do. The cause of this disorder is thought to be in the blood, being either too redundant in quantity, or of too thick and gluey a consistence; so that by stagnating in these veins in too great quantities, it causes them to be thus preternaturally distended. Frequently the disorder also arises from some external violence whereby the coats of the vessels are contused, over-stretched, and weakened, and the blood by that means impeded in its course.

This disorder seldom gives the patient much trouble or uneasiness; nor is there any necessity for the use of medicines, and much less any surgical operations, except when it becomes intolerable by violent pains.

If through pain, or other uneasiness, it becomes necessary to try some means, as in healthy constitutions this disorder may arise from a redundancy of semen, in the spermatic veins, the most ready and effectual remedy will be matrimony; but if the case should happen to be in a person already married, there is but little room to expect a cure from medicines: however, such topical remedies may be applied, as are known to attenuate the blood, and strengthen the relaxed parts. The patient should also be bled.

When other means have proved ineffectual, and the disorder still increases, the opening those vessels which are most distended, the whole length of the tumor, is much approved of; and after letting

them discharge a few ounces of blood, to make the dressings with scraped lint, a vulnerary plaster, compress and proper bandage, and to treat the wound, in the subsequent dressings, with some vulnerary balsam.

CISALPINE, any thing on this side the Alps. Thus the Romans divided Gaul into cisalpine and transalpine. It must be observed, however, that what was cisalpine with regard to the Romans, is transalpine with regard to us.

CISLEU, in hebrew chronology, the ninth month of their ecclesiastical, and the third of the civil year, answering nearly to our November.

CISSAMPELOS, in botany, a genus of the diœcia hexandria class of plants, without any calyx: the male flower consists of four ovated, plain, patent petals; the fruit is a globose, unilocular berry, containing a solitary rugose seed.

CISSOID, in geometry, a curve of the second order, first invented by Diocles, whence it is called the cissoid of Diocles. See the article **CURVE**.

Sir Isaac Newton, in his *appendix de æquationum constructione lineari*, gives the following elegant description of this curve, and at the same time shews how, by means of it, to find two mean proportionals, and the roots of a cubic equation, without any previous reduction. Let A G, (plate XLII. fig. 3. N^o. 1.) be the diameter, and F the center of the circle belonging to the cissoid; and from F draw F D, F P at right angles to each other, and let F P be = A G; then if the square P E D be so moved that one side E P always passes through the point P, and the end D of the other side E D slides along the right line F D, the middle point C of the side E D, will describe one leg G C of the cissoid; and by continuing out F D on the other side F, and turning the square about by a like operation, the other leg may be described.

This curve may likewise be generated by points in the following manner.

Draw the indefinite right line B C (*ibid.* N^o 2.) at right angles to A B the diameter of the semicircle A O B; and draw the right lines A H, A F, A C, &c. then if you take A M = L H, A O = O F, Z C = A N, &c. the points M, O, Z, &c. will form the curve A M O Z of the cissoid.

Properties of the Cissoïd. It follows from the genesis, that drawing the right lines P M, K L, perpendicular to A B, the lines A K, P N, A P, P M, as also A P, P N,

P N, A K, K L, are continual proportionals, and therefore that $A K = P B$, and $P N = I K$. After the same manner it appears, that the cissoïd $A M O$, bisects the semicircle $A O B$. Sir Isaac Newton, in his last letter to Mr. Leibnitz, has shewn how to find a right line equal to one of the legs of this curve, by means of the hyperbola; but suppressed the investigation, which, however, may be seen in his Fluxions. The cissoïdal space contained under the diameter $A B$, the asymptote $B C$, and the curve $A O Z$ of the cissoïd, is triple that of the generating circle $A O B$. See Dr. Wallis's mathematical works, Vol. I. p. 545, and seq.

CISSUS, in botany, a genus of plants belonging to the tetrandria-monogynia class of Linnæus; the flower of which consists of one petal, lightly divided into four segments; and the fruit is a roundish berry, containing only a single seed.

CISTERCIANS, in church-history, a religious order founded in the eleventh century by St. Robert, a benedictine. They became so powerful, that they governed almost all Europe, both in spirituals and temporals. Cardinal de Vitri describing their observances, says, they neither wore skins nor shirts, nor ever eat flesh, except in sickness; and abstained from fish, eggs, milk and cheese: they lay upon straw-beds in their tunics and cowls; they rose at midnight to prayers: they spent the day in labour, reading and prayer: and in all their exercises observed a continual silence. The habit of the cistercian monks is a white robe, in the nature of a cassock, with a black scapulary and hood, girt with a woolen girdle. The nuns wear a white tunic, and a black scapulary and girdle.

CISTERN, denotes a subterraneous reservoir of rain-water; or a vessel serving as a receptacle for rain or other water, for the necessary uses of a family.

If a cistern is to be made in a cellar to preserve water for culinary uses, the brick or stone should be laid with terras, or cemented with a composition of slackened sifted lime and linseed oil, tempered together with tow or cotton-wool. In this case the bottom should be covered with sand, to sweeten and preserve it.

In making cisterns, the walls should be good and built to advantage, for fear the water should be lost; and the inside should be well cemented, especially in the angles.

There are likewise lead-cisterns, jar-ci-

sterns, &c. See the article **PLUMBERY**, &c. Authors mention a cistern of Constant-nople, the vaults of which are supported by two rows of pillars, 212 in each row, each pillar being two feet in diameter. They are planted circularly, and in radii, tending to that in the center.

CIST, or **CYST**. See the article **CYST**.

CISTIC, or **CYSTIC**. See **CYSTIC**.

CISTULA, or *Catoptric CISTULA*. See the article **CATOPTRIC**.

CISTUS, in botany, a genus of the polyandria-monogynia class of plants, the flower of which consists of five roundish, plain, patent, very large petals; the fruit is a roundish capsule, containing numerous small roundish seeds. This plant is of an inebriating quality, for which reason, in many places of Saxony, they boil it in their beer. They lay it also among clothes, to expel moths.

CITADEL, a place fortified with four, five, or six bastions, built on a convenient ground near a city, that it may command it in case of a rebellion. The city therefore is not fortified on the part opposite to the citadel, tho' the citadel is against the city. The best form for a citadel is a pentagon, a square being too weak, and a hexagon too big.

CITATION, in ecclesiastical courts, is the same with summons in civil courts. See the article **SUMMONS**.

A person is not to be cited out of the diocese where he lives, unless it be by the archbishop in default of the ordinary, or where the ordinary is party to the suit, and in cases of appeal.

CITATION is also a quotation of some law, authority, or passage of a book.

CITHARA, in antiquity, a musical instrument, the precise structure of which is not known; some think it resembled the greek delta Δ ; and others, the shape of a half moon. At first it had only three strings, but the number was at different times increased to eight, to nine, and lastly to twenty-four. It was used in entertainments and private houses, and played upon with a plectrum or quill, like the lyre. See the article **LYRE**.

CITHAREXYLON, in botany, a genus of the didynamia-angiospermia class of plants; the cup of which is divided into five deep segments; and the flower is infundibuliform, and rotated; the segments being all equal, and villose on the upper side.

CITHARISTA, or **CITHAROEDUS**, in antiquity, one who played on the cithara, distri-

distinguished from all other musicians by an embroidered cloak. See CITHARA.

CITILLE, *citillus*, in zoology, a species of mus, with a short tail, and no auricles or external ears: it is also called *mus noricus*. See the article MUS.

CITIZEN, *civis*, a native or inhabitant of a city, vested with the freedom and liberties of it.

A citizen of Rome was distinguished from a stranger, because he belonged to no certain commonwealth subject to the Romans. A citizen is either by birth or election; and sons may derive the right from their fathers. To make a good roman citizen, it was necessary to be an inhabitant of Rome, to be enrolled in one of the tribes, and to be capable of dignities. Those strangers to whom were granted the rights and privileges of roman citizens, were only honorary citizens. It was not lawful to scourge a citizen of Rome.

The Romans were antiently so particularly careful to preserve even their common citizens from any mixture of servile blood, that they prohibited all marriages between them and freed slaves, or their children. And it was decreed, as a special privilege and reward to one Hispala, of libertine condition, for her discovery of the impieties of the bacchanalian mysteries, that a citizen might take her to wife, without any disgrace and diminution of his rights. These distinctions, indeed, began to be disregarded towards the end of the republic, with respect to the ordinary citizens, but were kept up to the last, with regard to the senate. Augustus, upon numbering the roman citizens, found they amounted to upwards of four millions.

CITRINUS, in natural history, a kind of sprig crystal, of a fine yellow colour. Many of the common crystals, when in the neighbourhood of lead mines, are liable to be accidentally tinged yellow, by an admixture of the particles of that metal; and all these, whether finer, or coarser, have been too frequently confounded together, under the name citrine; but Dr. Hill has ascertained this to be a peculiar species of crystal, different from all the other kinds in form, as well as colour, and distinguished by the name of *ellipomacrostylum lucidum flavescens pyramide brevi*. It is never found colourless, like the other crystals, but has great variety of tinges, from that of deeper ochres to a pale lemon colour. It is very plentiful

in the West-Indies, and is found in some parts of Bohemia. Our jewellers have learnt from the French and Italians, who are very fond of it, to call it citrine, and often cut stones for rings out of it, particularly out of the pyramid, which is always finer than the column, and these, after they have passed through two or three hands, are generally mistaken for topazes.

CITRON-TREE, *citrus*, in botany. See the article CITRUS.

CITRUL, *citrullus*, makes a distinct genus of plants, according to some, otherwise called anguria; but Linnæus comprehends it among the cucumbers: it is said to have the same medicinal qualities with the cucurbita or gourd.

CITRUS, the CITRON-TREE, in botany, a genus of the polyadelphia-icosandria class; the flower of which consists of five oblong, plain, patent petals: the fruit is a berry with a fleshy rind, a pulp consisting of vesicles and with nine cells, containing two subovated callous seeds in each cell.

The fruit of this tree has much the same qualities with the lemon, from which it is distinguished by its firmness, greater bulk, brisker smell, and higher colour. We have essences, oils, confections, and waters obtained from it.

CITTADELLA, the capital of the island of Minorca, about twenty-three miles west of Port-Mahon: east longitude 3° 30', north latitude 40°.

It is likewise the name of a town in Italy, in the Padouan, between Vicenza and Trevigni.

CITY, *urbs*, a large populous town, capital of some country, province, or district; or the see of a bishop.

Town and city are frequently used in a synonymous sense; however, custom seems to have appropriated the term city to such towns as are, or formerly were, the sees of a bishop: hence it is, that Edinburgh, Glasgow, &c. are still called cities, though they are no longer the sees of bishops, since the establishment of presbytery in Scotland.

Many are the causes that render large cities more unhealthy than other places, as narrow and dirty streets, crowded jails and hospitals, burials within the body of the place, and the like. To the stagnation of air, and putrid effluvia, occasioned by these means, are owing a multitude of malignant disorders, not to be remedied but by purer air and a country life.

Imperial

Imperial Cities, an appellation given to those cities of Germany, immediately subject to the emperor: they make a part of the germanic body, are governed by their own magistrates, have the privilege of coining money, and assist at the diet of the empire: they are forty-eight in all, and are distinguished as they occur under their several articles in the order of the alphabet.

CITY, *civitas*, among the antients, was used in a synonymous sense with what we now call an imperial city; or rather answered to those of the Swiss cantons, the republics of Venice, Genoa, &c. as being an independent state, with territories belonging to it.

CIVES, the english name of a species of onion, growing in tufts, and seldom exceeding six inches in height: they never produce any bulbs, and are much used in sallads in spring.

CIVET, *zibethum*, a soft unctuous matter produced in the manner of musk, in bags growing from the lower part of the belly of a civet-cat. See **ZIBETHICUS**.

There is a great trade of civet at Calicut, at Bassora, and in other parts of the Indies and in Africa. Live cats are also to be seen in Holland, where they are kept by persons who draw the civet from them for sale, the civet at Amsterdam having the preference of what comes from the Levant and the Indies. Civet should be chosen new, and of the same colour on the surface as within; of a moderate consistence, not too soft nor too dry, the former generally denoting its being adulterated, the latter, its being decayed. It should be of a very strong disagreeable smell. It is adulterated by mixing with it the gall of an ox and storax liquified. Civet has been greatly esteemed in medicine as a cordial, sudorific, and resister of poisons, and was a long time famous, externally applied to the pudenda of women in hysteric cases; but this practice has been found not only ineffectual, but hurtful. It is little used at present, except in a deafness from cold, being an article wholly confined to confectioners and perfumers.

CIVET-CAT, the english name of the animal which produces the civet, called by zoologists *zibethicus*. See **ZIBETHICUS**.

CIVIC CROWN, *corona civica*, was a crown given by the antient Romans to any soldier who had saved the life of a citizen in any engagement.

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This was accounted more honourable than any other crown, though composed of no better materials than oaken boughs. See plate XLII. fig. 4.

It was a particular honour conferred upon any that merited this crown, that when they came to any of the public shews, the whole company, as well senate as people, should signify their respect, by rising up, as soon as they saw them enter, and that they should take their seats upon these occasions among the senators; being also excused from all troublesome duties and services in their own persons, and procuring the same immunities for their father and grandfather.

CIVADAD-REAL, a city of Spain, in the province of New Castile: it is the capital of La Mancha, situated on the river Guadiana, sixty miles south of Toledo: west longitude $4^{\circ} 20'$, north latitude 39° .

CIVIDAD RODRIGO, a city of Spain, in the province of Leon, near the confines of Portugal, situated on the river Agnada, forty-five miles south-west of Salamanca: west longitude $6^{\circ} 50'$, north lat. $40^{\circ} 40'$.

CIVIL, *civilis*, in a general sense, something that regards the policy, public good, or peace of the citizens, or subjects of the state; in which sense we say, civil government, civil law, civil right, civil war, &c.

CIVIL, in a legal sense, is also applied to the ordinary procedure in an action, relating to some pecuniary matter or interest, in which sense it is opposed to criminal.

CIVIL-DEATH, any thing that retrenches or cuts off a man from civil society, as a condemnation to the galleys, perpetual banishment, condemnation to death, outlawry, and excommunication.

The term is also applied to those who are no longer capable of acting in temporal concerns, as those who renounce the world, who retire and make vows in a monastery, &c.

CIVIL HISTORY. See **HISTORY**.

CIVIL LAW, is properly the peculiar law of each state, country, or city: but what we usually mean by the civil law, is a body of laws composed out of the best roman and grecian laws, compiled from the laws of nature and nations, and, for the most part, received and observed throughout all the roman dominions for above 1200 years.

The Romans took the first grounds of this law from the twelve tables, which

were abridgments of the laws of Solon, at Athens, and of other celebrated cities of Greece; to which they added their own antient customs of the city of Rome: these written laws were subject to various interpretations, whence controversies arising, they were determined by the judgment of the learned; and these determinations were what they first called *jus civile*, after their several cases were composed; which, lest the people should make them at pleasure, were fixed, certain and solemn; and this part of their law they called *actiones juris*, cases at law. The Romans had also their *plebiscita*, which were laws made by the commons, without the authority of the senate. The *jus honorarium*, which was an edict of some particular magistrate, the *senatus consultum*, an ordinance made by the sole authority of the senate, and the *principalis constitutio*, which was enacted by the prince or emperor. These laws grew, by degrees, to a vast number of volumes, and therefore the emperor Justinian commanded his chancellor Tribonianus, with the assistance of some other eminent lawyers, to reduce it to a perfect body.

The body of the civil law is divided into three volumes, which are still remaining, *viz.* the pandects or digests, the code, and the institutes: to these were afterwards added the authentics or constitutions of Justinian, called also novellæ, or novels.

The civil law is not received at this day in any one nation, without some addition or alteration: for sometimes the feudal law is mixed with it, or general or particular customs; and often ordinances and statutes cut off a great part of it. In Turkey, the Justinian greek code is only used. In Italy, the canon law and customs have excluded a good part of it. In Venice, custom hath almost an absolute government. In the Milanese, the feudal law and particular customs bear sway. In Naples and Sicily, the constitutions and laws of the Lombards are said to prevail. In Germany and Holland, the civil law is esteemed to be the municipal law; but yet many parts of it are there grown obsolete, and others are altered, either by the canon law, or a different usage. In Friesland, it is observed with more strictness; but in the northern parts of Germany, the *jus saxonicum*, *lubecense*, or *culmense*, is preferred to it. In Denmark and Sweden, it hath scarce

any authority at all. In France, only a part of it is received, and that part is in some places as a customary law; and in those provinces nearest to Italy, the municipal written law. In criminal cases, the civil law is more regarded in France: but the manner of trial is regulated by ordinances and edicts. The civil law in Spain and Portugal, is corrected by the *jus regium* and custom. In Scotland, the statutes of the Sederunt, part of the *Regiæ Majestatis*, and their customs, controul the civil law. In England, it is used in the ecclesiastical courts, in the courts of the admiralty, and in the two universities; yet in all these it is restrained and directed by the common law.

CIVIL WAR, a war between people of the same state, or the citizens of the same city.

CIVIL YEAR is the legal year, or annual account of time, which every government appoints to be used within its own dominions, and is so called in contradistinction to the natural year, which is measured exactly by the revolution of the heavenly bodies.

CIVILIAN, in general, denotes something belonging to the civil law; but more especially the doctors and professors thereof are called civilians: of these we have a college or society in London, known by the name of doctors-commons. See the article DOCTORS-COMMONS.

CIVILIZATION, in law, a judgment which renders a criminal process civil.

It is performed by turning the information into an inquest and *vice versa*.

CIVITA CASTELLANA, a city of Italy, in St. Peter's patrimony, situated near the river Tiber, twenty-five miles north of Rome: east longitude 13° , north latitude $42^{\circ} 15'$.

CIVITA VECCHIA, a port-town and fortress of Italy, in St. Peter's patrimony, situated on a bay of the Mediterranean, thirty miles north-west of Rome: east longitude $12^{\circ} 20'$, north latitude 42° .

It is the station of the galleys belonging to the pope, who has lately declared it a free port.

CLACK, among countrymen. To clack wool, is to cut off the sheep's mark, which makes the weight less, and yields less custom to the king.

CLACKMANNAN, the capital of Clackmannanshire, in Scotland, situated on the northern shore of the Forth, about twenty-five miles north-west of Edinburgh: west longitude $3^{\circ} 40'$, north lat. $56^{\circ} 15'$.

The county of Clackmannan is joined with that of Kinross, which each in their turn choose a member to represent them in parliament.

CLADONIA, in botany, a genus of mosses consisting of a firm, tough, and flexible matter, formed into stalks of a roundish figure, sometimes almost simple, sometimes more ramified, and in many of the species resembling small shrubs.

There are four species of this genus, *viz.* the forked cladonia, the branched, hollow cladonia, the solid, branched cladonia, and the tophaceous cladonia, otherwise called the orcelle or cahary-weed.

CLAGENFURT, or **CLAGENFORT**, the capital of Carinthia, in the circle of Austria in Germany, 120 miles south-west of Vienna: east long. 14°, north lat. 47°.

CLAIM, in law, a challenge of interest in any thing that is in possession of another, as claim by charter, descent, acquisition, &c.

Claim is either verbal or by action, and is sometimes for lands, sometimes for goods and chattels. It may be made by the party himself, and likewise by his servant or deputy, but not by a meer stranger in his name.

By the common law, claim is to be within a year and a day after the person is disseized of land.

CLAIM of liberty, is a suit to the king in the court of exchequer, to have liberties confirmed there by the attorney-general.

CLAIM of right. See **RIGHT**.

False CLAIM, is a term used in the forest-laws, where a person claims more than his due, for which he is liable to be amerced.

Quit CLAIM. See the article **QUIT**.

Continual CLAIM. See **CONTINUAL**.

CLAIR-OBSCURE, **CHIARO-SCURO**, or **CLARO-OBSCURO**. See the article **CLARO-OBSCURO**.

CLAKIS, in ornithology, a name used in some parts of the kingdom for the bernacle. See the article **BERNACLE**.

CLAMEA ADMITTENDA, in *itinere per attornatum*, is a writ by which the justices in eyre are commanded to admit a person's claim by attorney, when he is employed in the king's service, and cannot personally appear.

CLAMOR, in the french laws, imports the complaint of a person imploring justice against the oppression of another.

CLAMP in a ship, denotes a piece of timber applied to a mast or yard, to prevent the wood from bursting; and also a thick

plank lying fore and aft under the beams of the first orlop, or second deck, and is the same that the rising timbers are to the deck.

CLAMP, is likewise the term for a pile of unburnt bricks built up for burning. These clamps are built much after the same manner as arches are built in kilns, *viz.* with a vacuity betwixt each brick's breadth for the fire to ascend by; but with this difference, that instead of arching, they truss over, or over span; that is, the end of one brick, is laid about half way over the end of another, and so till both sides meet within half a brick's length, and then a binding brick at the top, finishes the arch.

CLAMP-NAILS, such nails as are used to fasten on clamps in the building or repairing of ships.

CLAMPING, in joinery, is the fitting a piece of board with the grain, to another piece of board cross the grain. Thus the ends of tables are commonly clamped, to prevent their warping.

CLANCULARII, a sect of anabaptists, who taught that it was not necessary to make an open profession of the faith.

CLANDESTINE, any thing done without the knowledge of the parties concerned, or without the proper solemnities. Thus a marriage is said to be clandestine, when performed without the publication of banns, the consent of parents, &c. And as such marriages are very detrimental to society, as well as destructive of the peace and happiness of private families, the legislature has lately thought proper to enact, that all marriages of that kind, from the month of March 1754, shall be null and void. See the article **MARRIAGE**.

CLANGULA, the **GOLDEN-EYE**, in ornithology, a species of anas, with a greenish black head, a black and white body, and a white spot at the mouth. See **ANAS**.

CLAP, in medicine, the first stage of the venereal disease, more usually called a gonorrhœa. See **GONORRHOEA**.

CLAP, in falconry, denotes the under part of a hawk's beak.

CLAP-BOARD, among coopers, denotes any kind of boards proper for making casks or other vessels of. See the article **BOARD**.

CLAP-NET, a device for catching larks. You intice the birds with calls, and when they are within your distance, you pull a cord, and your net flies up and claps over them. See the article **NET**.

It is likewise called doring or daring.

CLAR, or **CLAER**, among metallurgists, denotes the powder of bone-ashes, kept for covering the insides of coppels. See the article **COPPEL**.

CLARA, or **St. CLARA**, an island of Peru, in South America, situated in the bay of Guaiquil, seventy miles south-west of the city of Guaiquil: west longitude 80° , south latitude $3^{\circ} 30'$.

CLARAMONTE POWDER, a kind of earth, called *terra de baira*, from the place where it is found: it is famous at Venice, for its efficacy in stopping hæmorrhages of all kinds, and in curing malignant fevers.

CLARE, a market-town of Suffolk, thirteen miles south of Bury: east longitude $35'$, north latitude $52^{\circ} 15'$. It gives the title of earl to the duke of Newcastle.

CLARE is also the capital of a county of the same name in the province of Connaught, in Ireland, situated about seventeen miles north-west of Limerick: west longitude 9° , north latitude $52^{\circ} 40'$.

CLARENCIEUX, the second king at arms, so called from the duke of Clarence, to whom he first belonged; for Lionel third son to Edward III. having by his wife the honour of Clare, in the county of Thomond, was afterwards declared duke of Clarence; which dukedom afterwards escheating to Edward IV. he made this earl a king at arms. His office is to marshal and dispose of the funerals of all the lower nobility, as barons, knights, esquires, on the south side of the Trent; whence he is sometimes called Surroy, or South-roy, in contradistinction to Norroy.

CLARENDON. The constitutions of Clarendon, are certain ecclesiastical laws drawn up at Clarendon, near Salisbury. They were sixteen in number, all tending to restrain the power of the clergy, and readily assented to by all the bishops and barons, the archbishop Becket excepted, who opposed them at first, but was afterwards prevailed upon to sign them. The pope Alexander III. declared against and annulled most of them.

CLARENZA, the capital of a dutchy of the same name in the Morea: it is a seaport town, situated in the Mediterranean, twenty-six miles south of Petras: east longitude $21^{\circ} 40'$, north lat. $37^{\circ} 40'$.

CLARET, a name given by the French to such of their red wines as are not of a deep or high colour. See **WINE**.

CLARET, in antient pharmacy, was a kind of wine impregnated with aromatics, sometimes also called *hippocras*, or *vinum hippocraticum*, because supposed to have been first prescribed by Hippocrates.

CLARET-WINE-APPLE, is fair, and yields plenty of a pleasant sharp juice, from whence it has its name, and not from the colour; it being a white apple, but makes a vinous liquor, which, if well ordered, excels most other cyders, especially with a mixture of sweet apples.

CLARICHORD, or **MANICHORD**, a musical instrument in form of a spinnet.

It has forty nine or fifty stops, and seventy strings, which bear on five bridges, the first whereof is the highest, the rest diminishing in proportion. Some of the strings are in unison, their number being greater than that of the stops. There are several little mortises for passing the jacks, armed with brass-hooks, which stop and raise the chords instead of the feather used in virginals and spinnets: but what distinguishes it most is, that the chords are covered with pieces of cloth, which render the sound sweeter, and deaden it so, that it cannot be heard at any considerable distance: whence it comes to be particularly in use among the nuns, who learn to play, and are unwilling to disturb the silence of the dormitory.

CLARIFICATION, in chemistry, the act of clearing and fining any fluid from all heterogeneous matter or feculencies.

This operation is performed three ways, by decantation, by despumation, and by percolature or filtration.

The first and most simple manner of clarification, is by decantation. It is the separating fluids from their grosser parts, by means of the difference of their specific gravity, and is performed by only suffering the fluid to stand at rest, till every thing that will subside is collected at the bottom, and then pouring off from the sediment, by a gradual inclination of the vessel, all that part of the fluid which appears clear.

When fluids are to be freed from oils, or such matter as floats, an instrument, called a tritorium, or separating funnel, is to be used.

When oils, whose viscid consistence is apt to detain impurities, and prevent their subsiding, are to be clarified, it is proper, previously to decantation, to let them stand some time within a moderate digesting heat, by means of which, be-

ing more liquified, they will frequently let fall a sediment, not otherwise separable. The second method, by despumation, is performed by adding whites of eggs, first well beat together, to the fluid to be clarified; and after a perfect commixture, making them coagulate by means of heat, and thereby carry to the surface all the heterogeneous matter, which is entangled by them in their coalescence; the impurities, together with the concreted whites of the eggs, appearing as a scum on the surface of the fluid, is to be taken off with a spoon.

The third manner called filtration or percolation, is performed by passing, without pressure, the fluid to be purified, through strainers of flannel, linnen-cloth, or paper, which retaining the grosser parts, suffer only the clearer fluid to be transmitted.

When flannel is used, it is made into a bag, in the form of a cone, and then called Hippocrates's sleeve, the basis whereof being turned upwards, and expanded by means of three or four posts, from which it is made to hang: it is then filled with the fluid, which drops from the apex into a vessel.

This is mostly used in case of decoctions extracts, and all gelatinous and saponaceous preparations, where extreme clearness is not necessary. In solutions of salts, spirits, and other limpid fluids where great transparency is expected, paper, or decantation subsequent to it thro' flannel, are alone perfectly capable of answering the end. The manner of filtering thro' paper, is to put it into a tin or glass funnel, to whose form it is adapted in the manner of a lining. Linnen-cloth is also used for this purpose, tho' but seldom, as it purifies with far less effect than woolen, unless in the solutions of gums and gummy extracts. In distilled waters, &c. which have a milky hue, or are turbid, clarification is generally effected with fine sugar, mixt with a small quantity of alum: fine and delicate wines are clarified with fish-glue, and thicker wines with omeler, &c.

CLARIGATION, *clarigatio*, in roman antiquity, a ceremony which always preceded a formal declaration of war, performed in this manner: the chief of the heralds went to the territory of the enemy, where, after some solemn, prefatory indication, he, with a loud voice, intimated that he declared war against them for cer-

tain reasons specified, such as an injury done to the roman allies, or the like.

CLARIGATION was also used for apprehending a man, and holding him to bail, called by the Greeks *androplepsy*.

CLARINO, a trumpet: hence, a *doi clarini* signifies, that a piece of music is to be played by two trumpets. See the articles **TRUMPET**, **CORNET**, &c.

CLARION, a kind of trumpet, whose tube is narrower, and its tone acuter and shriller than that of the common trumpet. It is said that the clarion, now used among the Moors and Portuguese, who borrowed it from the Moors, served antiently for a treble to several trumpets, which sounded tenor and bass.

CLARION, in heraldry, a bearing as represented, plate **KLII**. fig. 5. he bears ruby, three clarions topaz, being the arms of the earl of Bath, by the name of Granville: Guillim is of opinion, that these three clarions are a kind of old-fashioned trumpets; but others say, that they rather resemble the rudder of a ship; others, a rest for a lance.

CLARO-OBSCURO, or **CLAIR-OBSCURE**, in painting, the art of distributing to advantage the lights and shadows of a piece, both with regard to the easing of the eye, and the effect of the whole piece.

Thus, when a painter gives his figures a strong relieve, loosens them from the ground, and sets them free from each other, by the management of lights and shadows, he is said to understand the *claro-obscuro*, which makes one of the great divisions or branches of painting, the whole of a picture being resolvable into light and shadow.

The doctrine of the *claro-obscuro* will come under the following rules. Light may be either considered with regard to itself, or to its effects; the place wherein it is diffused, or its use.

For the first, light is either natural, or artificial. 1. Natural either comes immediately from the sun, which is brisk, and its colour various, according to the time of the day; or it is that of a clear air, thro' which the light is spread, and whose colour is a little bluish; or a cloudy air, which is darker, yet represents the objects in their genuine colours, with more ease to the eye. 2. Artificial light proceeds from fire or flame, and tinges the object with its own colour; but the light it projects is very narrow and confined.

For

For the second, the effects of light are either principal, as when the rays fall perpendicularly on the top of a body, without any interruption, or glancing, as when it slides along bodies; or secondary, which is for things at a distance.

3. For the place, it is either the open campaign, which makes objects appear with greater softness; or it is in an inclosed place, where the brightness is more vivid, its determination more hasty, and its extremes more abrupt.

4. For the use or application, the light of the sun is always supposed to be without, and over against the picture, that it may heighten the foremost figures, the luminaries themselves never appearing, in regard the light colours cannot express them. The chief light to meet on the chief group, and as much as possible, on the chief figure of the subject. The light to be pursued over the great parts, without being crossed or interrupted with little shadows. The full force of the principal light to be only in one part of the piece, taking care never to make two contrary lights. Not to be scrupulously confined to one universal light, but to suppose other accessory ones, as the opening of clouds, &c. to loosen some things, and produce other agreeable effects. Lastly, the light to be different, according to the quality of things whence it proceeds, and the nature of the subjects which receive it.

As for shadows, they are distinguished, 1. Into those formed on the bodies themselves by their proper relieves. 2. Those made by adjacent bodies. 3. Those that make the parts of any whole, and the different effects, according to the difference of places.

For the first, since the different effects of light only appear by shadows, their degrees must be well managed. The place which admits no light, and where the colours are lost, must be darker than any part that has relieve, and disposed in the front.

Deepenings, which admit not of any light, or reflex of light, must never meet on the relieve of any member of any great elevated part, but in the cavities, or joints, of bodies, the folds of draperies, &c. and to find occasion for introducing great shadows, to serve for the repose of the sight, and the loosening of things, instead of many shadows which have a pitiful effect.

For the second, the shadows made by bo-

dies are either in plain and smooth places, or on the earth, wherein they are deeper than the bodies that occasion them, as receiving less reflex light, yet still diminish as they depart farther from their cause, or on the neighbouring bodies, where they are to follow the form of the same bodies, according to its magnitude, and its position in respect of the light.

For the third, in shadows that have parts, the painter must observe to take for a light in a shadowed place, the teint or lustre of the light part; and on the contrary, for the shadow in the lightened part, the teint or lustre in the shadow.

For the fourth, the effects of shadows are different, as the place is either wide or spacious, as in those coming immediately from the sun, which are very sensible, and their extremes pretty abrupt; from the serene air, which are fainter and more sweet; from the dark air, which appear more diffused and almost imperceptible; and from an artificial light, which makes the shadows deep, and their edges abrupt.

CLARO-OBSCURO, or CHIARO-SCURO, is also used to signify a design consisting only of two colours, most usually black and white, but sometimes black and yellow; or it is a design washed only with one colour, the shadows being of a dusky brown colour, and the lights heightened up with white.

The word is also applied to two prints of two colours, taken off at twice, whereof there are volumes in the cabinets of the curious in prints.

CLARY, in botany, the english name of the sclarea of Tournefort, comprehended by Linnæus among the species of salvia, or sage.

Wild CLARY, the same with the horminum of Tournefort, likewise accounted by Linnæus a species of sage.

CLARY WATER, a spirit drawn from an infusion of the herb clary in spirit of wine, being a very pleasant and excellent cordial.

Etmuller will not have it give place even to castor in hysterical affections; and affirms, that there is no better remedy in colics: but it is not now prescribed to such purposes.

CLASMIUM, in natural history, constitutes a distinct genus of gypsum by itself, being more soft, dull, and opaque than other kinds: it neither gives fire with steel, nor ferments with aqua fortis; but calcines readily in the fire, and affords
a very

a very valuable plaster of Paris. See the article GYPSUM.

CLASPERS, among gardeners, the same with what botanists call *cirri*. See *CIRRI*. These clasps are of a compounded nature between that of a root and a trunk. Their use is sometimes for support only, as in those of vines, briony, &c. whose branches being long, slender, and fragile, would fall and break, through their own proper weight and that of their fruits, were they not supported by these clasps, which take hold of any thing by a natural circumvolution; those of briony have a retrograde motion about every third circle, in the form of a double clasp, so that if they miss one way, they may catch the other. Sometimes clasps are for supply, as in the trunk roots of ivy, which being a plant that mounts up very high, and of a more compact substance than that of vines, the sap would not be sufficiently supplied to the upper shoots, unless these assisted the mother root: but they also serve for support.

CLASS, *classis*, an appellation given to the most general subdivisions of any thing: thus, animal is subdivided into the classes quadrupeds, birds, fishes, &c. which are again subdivided into serieses or orders; and these last into genera.

CLASS is also used in schools, in a synonymous sense with form, for a number of boys all learning the same thing.

The distributing boys into classes, contributes not only to raise an emulation among them, but is of great advantage to the master; who, by this means, can teach double the number it would otherwise be possible for him to do.

CLASSIC, or **CLASSICAL**, an epithet chiefly applied to authors read in the classes at schools, and who are in great authority there.

This term seems to owe its origin to Tullius Servius, who, in order to make an estimate of every person's estate, divided the roman people into six bands, which he called classes. The estate of the first class was not to be under 200 l. and these by way of eminence were called *classici*, classics: hence authors of the first rank came to be called classics, all the rest being said to be *infra classem*: thus, Aristotle is a classic author in philosophy; Aquinas, in school divinity, &c.

By classical learning may be understood, such an intimacy with the best greek and latin writers, as not only enables the

reader to see and admire the beauty of their several compositions, but to imitate their manner of writing, to transcribe their spirit and eloquence, and make their diction and their sentiment his own.

The principal classics in the greek language are, Homeri opera, Platonis opera, Demolthenis & Aeschinis opera, Xenophon de Cyri institutione, Plutarchi opera, Isocratis orationes & epistolæ, Epicteti encheridion, Luciani opera, Sophoclis tragædiæ, Euripidis opera, Dionysius Longinus de sublimitate, Theocriti quæ extant, Anacreon, Pindari opera, Aristophanis comædiæ, &c.

Classics in the latin tongue are, M. Tullii Ciceronis opera, T. Livii historia, J. Cæsaris commentarii, C. Salustii historia, Virgilius, Horatius, Terentii comædiæ, Plauti comædiæ, Juvenalis satyræ, Ovidii opera, Plinii epistolæ, Plinii historia naturalis, Valerii Patreculi quæ extant, &c.

CLATHRUS, in botany, a genus of roundish mushrooms; the substance of which is reticulated, or full of holes, somewhat like the meshes of a net, with continuous ramifications. See **MUSHROOM**.

CLARTE, in heraldry, an appellation given to irregular lines, not reducible to those commonly used. See **LINE**.

CLAVARIA, in botany, a genus of perpendicular mushrooms, with an uniform surface: this genus, by different authors, has been called *fungoides*, *corallo-fungus*, and *caralloides*. See **MUSHROOM**.

CLAUDENS PALPEBRAS, in anatomy, a muscle otherwise called orbicularis. See the article **ORBICULARIS**.

CLAVES INSULÆ, a term used in the isle of Man; where all weighty and ambiguous causes are referred to a jury of twelve, who are called *claves insulæ*, the keys of the island.

CLAVICLES, *clavicule*, in anatomy, are two bones situated transversely and a little obliquely opposite to each other, at the superior and anterior part of the thorax, between the scapula and sternum. Their figure is somewhat like that of the letter S. their substance is spongy and brittle; their body is a fixt point for the deltoide, mastoide, pectoral, and some other muscles; they are protuberant for the subclavian muscle; and of their two extremities, the rounder is articulated with the sternum and with the first rib, and the flatter is articulated with the acromion.

The uses of the clavicles are, 1. To keep

Keep the arms from falling too forward upon the breast, and to facilitate several of the motions of the arm, 2. To serve for the place of origin for several muscles. 3. To defend the great subclavian vessels which run under them.

Fracture of the CLAVICLES. As it is no difficult matter to know when the clavicle is fractured, so it is not very hard to reduce it, especially when the fracture is transverse; the operation may be performed in the following manner: an assistant is to pull the arms of the patient gradually backwards, by which means the clavicles will be properly extended. In the mean time the surgeon is to replace the bone, and while the assistant holds it in that position, he is to apply a narrow and thick compress, so as to fill up the cavities above and below the clavicle. Upon this he is to lay two more narrow compresses made in the form of an X; and over all these apply a piece of pasteboard, accommodated to the shoulder and neck, and first steeped in spirit of wine, or oxycrate. Then he must place a ball under the arm, or bind it with a thick roller, to prevent the humerus from subsiding; and lastly, the whole is to be bound up, and the arm suspended in a sling.

Luxation of the CLAVICLES. They may be dislocated either from the top of the sternum, or processus acromion of the scapula, by some external violence, as a fall, blow, the lifting some great weight, or the like. This accident, however, seldom happens, by reason of their strong ligaments. For the cure, the surgeon will find the principal business to consist in a proper extension and reduction of what has been displaced, to be performed in the same manner as in fractures of the same bones: but all possible care must be taken to perform the bandage with accuracy, because it is the chief remedy; and such as are negligent in this point, seldom perform a cure without leaving some stiffness or weakness afterwards.

CLAVIS properly signifies a key, and is sometimes used in english to denote an explanation of some obscure passages in any book or writing.

CLAUSE, in grammar, denotes a member of a period, or sentence.

CLAUSE signifies also an article, or particular stipulation, in a contract, a charge or condition in a testament, &c.

Thus we say, a derogatory clause, a pe-

nal clause, saving clause, codicillary clause, &c.

CLAUSENBURG, a large city of Transylvania, situated on the river Samos, about fifty-five miles north-west of Hermanstadt: east longitude $20^{\circ} 50'$, and north latitude $47^{\circ} 10'$.

CLAVUS, in antiquity, an ornament upon the robes of the roman senators and knights, which was more or less broad, according to the dignity of the person: hence the distinction of tunica angusticlavia and laticlavica.

Critics are much divided about the clavi: some fancying them to have been a kind of flowers interwoven in the cloth; others will have them to be the buttons or clasps by which the tunic was held together; a third sort contend that the latus clavus was nothing else but a tunic bordered with purple; Scaliger thinks that the clavi did not properly belong to the vest, but hung down from the neck like chains and ornaments of that nature; but the most general opinion makes them to have been studs, something like heads of nails, worked into the tunic. Rubenius, rejecting all these opinions, contends that the clavi were no more than purple lines or streaks coming along the middle of the garments, which were afterwards improved to golden and embroidered lines of the same nature: and Mr. Dacier maintains that they were purple galleons with which they bordered the fore-part of the tunic, on both sides, in the place where it came together.

It has been a received opinion, that the angusticlave distinguished the knights from the common people, in the same manner as the laticlave did the senators from those of the equestrian rank: but Rubenius avers that there was no manner of distinction between the tunics of the knights and those of the commons. As to the persons who wore the laticlave, they were either sons of those senators who were patricians, in which case they wore it in their childhood, with the prætexta; or the sons of senators who were not patricians, these did not put on the laticlave till they applied themselves to the service of the commonwealth, and to bearing offices.

CLAVUS, in medicine and surgery, is used in several significations: 1. Clavus hystericus, is a shooting pain in the head between the pericranium and cranium, which affects such as have the green-sickness.

ness. 2. *Clavus oculorum*, according to Celsus, is a callous tubercle on the white of the eye, taking its denomination from its figure. 3. *Clavus* imports indurated tubercles of the uterus. 4. *Clavus* imports a chirurgial instrument of gold, mentioned by Amatus Lusitanus, designed to be introduced into an exulcerated palate, for the better articulation of the voice. 5. *Clavus* is a callus or corn on the foot; this arises from a too great compression of the cutis, which by this means hardens and forms itself into a knot. The cure is by softening them, and then pulling them out. The pulp of a lemon laid to a corn, and bound on all night, after softens it so by the morning that it may easily be taken off.

CLAW, among zoologists, denotes the sharp-pointed nails, with which the feet of certain quadrupeds and birds are furnished.

Crab's CLAWS, in pharmacy. See the article *CRAB'S CLAWS*.

CLAY, *argilla*, in natural history, a genus of earths, the characters of which are these: they are firmly coherent, weighty, and compact, stiff, viscid, and ductile to a great degree, while moist; smooth to the touch, not easily breaking between the fingers, nor readily diffusible in water, and when mixed, not readily subsiding from it.

Of this genus authors enumerate a great many species, some white, some brown, grey, blue, yellow, green, red, black, &c. many of which having been distinguished by particular names, will be mentioned, and their peculiar qualities explained, as they occur.

Besides the use of clay for making potter's ware, it is a considerable improver of light and sandy grounds, which, unless they be clayed, will bear nothing but rye, with whatever other composites they be manured; but once clayed, they will produce oats, barley, pease, &c. In Yorkshire, they lay an hundred load upon an acre of ground, which will keep the soil in heart upwards of forty years: indeed the first year after being clayed, it bears rank, ill-coloured, and broad-grained barley; but afterwards a plump round corn, like wheat.

CLAY-LANDS, those abounding with clay, whether black, blue, yellow, white, &c. of which the black and the yellow are the best for corn.

All clay-soils are apt to chill the plants growing on them in moist seasons, as they

retain too much water: in dry seasons, on the contrary, they turn hard and choke the plants. Their natural produce is weeds, goose-grass, large daisies, thistles, docks, poppies, &c. Some clay-soils will bear clover and rye-grass; and, if well manured, will produce the best grain: they hold manure the best of all lands, and the most proper for them are horse-dung, pigeon's-dung, some kinds of marle, folding of sheep, malt-dust, ashes, chalk, lime, foot, &c.

CLAYS, in fortification. See **HURDLES**.

CLAYTONIA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of five ovato-oblong, erect, large petals; the fruit is a roundish unilocular capsule, containing several roundish seeds.

CLEAR, in building, a term used by workmen to signify the inside work of the house.

CLEAR-WALK, a term among cock-fighters, to signify the place the fighting-cock is in, and no other.

Cape-CLEAR, a promontory in a little island on the south-west coast of Ireland.

CLEARING OF liquors. See the article **CLARIFICATION**.

CLEAT, on ship-board, a piece of wood fixed to the yard-arm, to keep the ropes from slipping off.

CLEBURY, a market-town of Shropshire, about twenty-five miles south east of Shrewsbury: west longitude $2^{\circ} 30'$, and north latitude $52^{\circ} 27'$.

CLECHE, in heraldry, a kind of cross, charged with another cross of the same figure, but of the colour of the field. See plate XLII. fig. 6.

CLEDONISM, in antiquity, a kind of divination, concerning the nature of which authors are not agreed, some making it the same with ornithomancy, and others a peculiar kind by itself, drawn from words occasionally uttered.

CLEF, or **CLIFF**, in music, a mark set at the beginning of the lines of a song, which shews the tone or key in which the piece is to begin; or it is a letter marked on any line, which explains the rest. It is called clef, or key, because hereby we know the names of all the other lines and consequently the quantity of every degree or interval: but because every note in the octave is also called a key, this letter marked, is, for distinction-sake, denominated the signed clef; and by this key is meant the principal note of a song, in which the melody closes.

There are three signed clefs, *c*, *f*, *g*;

the clef of the highest part in a song, called treble, or alt, is *g* on the second, sometimes on the first, and sometimes on the third line, counting upwards. The clef of the bass, or lowest part, is *f*, generally on the fourth line upwards, and often on the second, third, and fifth. For all the other mean parts, the clef is *c*, sometimes on one, and sometimes on another line: indeed some that are really mean parts, are frequently set with the clef *g*, see **TREBLE, TENOR, BASS**. It must be observed, however, that the ordinary signatures of the clefs bear little resemblance to those letters: for their figures, see **CHARACTER in music**.

The clefs are always taken fifth to one another, that is, the clef *f* is the lowest, *c* a fifth above it, and *g* a fifth above *c*. When the clef is changed, it is with design to make the system comprehend as many of the notes of the song as possible, and so to have the fewer above and below it. If then there be many lines above the clef, and few below it, this purpose is answered by placing the clef in the first or second line; if there be many notes below the clef, it is placed higher in the system. In effect, according to the relation of the other notes to the clef-note, the particular system is taken differently in the scale, the clef-line making one in all the varieties. See **SCALE**.

But still, in whatever line of the particular system the clef is found, it must be understood to belong to the same in the general system, and to be the same individual note or sound in the scale. By this constant relation of clef, we learn how to compare several particular systems of the several parts, and know how they communicate in the scale, which lines are unison, which are not; for it is not to be supposed that each part has certain particular bounds, within which another must never come. Some notes of the treble may come lower than some of the mean parts, or even of the bass. To put together, therefore, into one system, all the parts of a composition written separately, the notes of each part must be placed at the same distance above and below the proper clef, as they stand in the separate system; and because all the notes that are consonant must stand perpendicularly over each other, that the notes belonging to each part may be distinctly known, they may be made with such differences as shall not confound or alter their signification as to time, but only

shew that they belong to this or that part. Thus we shall see how the parts pass through one another, and which in every note is highest, lowest, or unison.

It must be observed, that for the performance of one single piece, the clefs only serve for explaining the intervals in the lines and spaces; so that the first note may be taken high or low, as we please: for as the proper use of the scale is not to limit the absolute degree of tunes, so the proper use of the signed clef is not to limit the pitch at which the first note of any piece is to be taken, but to terminate the tune of the first with relation to the first, and considering all the parts together, to determine the relation of the several notes, by the relation of their clefs in the scale. And in effect, in performing any single part, the clef may be taken in any octave, provided we do not go too high or too low for finding the rest of the notes of a song. But in a concert of several parts, all the clefs must be taken not only in the relation but also in the places of the system above mentioned, that every part may be comprehended in it.

Signature of the clefs is, according to Mr. Malcolm, the marking the systems by the flats and sharps. See the articles **FLAT, SHARP, &c.**

CLEFTS, or **CRACKS** in the heels, a disease incident to horses, that comes either by over-hard labour, which occasions surfeits, or by giving them unwholesome meat, or by washing them when hot. For the cure, shave away the hair, and apply the oil of hempseed, or linseed, and be sure to keep them clean.

CLEMATIS, **VIRGIN'S BOWER**, in botany, a genus of the polyandria-polygynia class of plants; the flower of which consists of four or five oblong lax petals: there is no pericarpium, but a small receptacle contains several roundish compressed seeds, crowned with a slender filament somewhat like a feather. See plate **XLII. fig. 7.**

CLEMENTINE, among the augustine monks, a person, who, after having been nine years a superior, becomes a private monk, in consequence of a bull of pope Clement.

CLEMENTINES, in the canon law, the constitutions of pope Clement V.

CLENCH NAILS, in smithery. See the article **NAIL**.

CLEOME, in botany, a genus of plants belonging to the tetradynamia-siliquosa class,

class, the flower of which consists of four patent petals inclining upwards; the fruit is a cylindrical pod, with two valves and two cells, containing several roundish seeds.

CLEPSYDRA, a water-clock, or instrument to measure time by the fall of a certain quantity of water.

The construction of a CLEPSYDRA. To divide any cylindrical vessel into parts, to be emptied in each division of time, the time wherein the whole, and that wherein any part is to be evacuated, being given.

Suppose a cylindrical vessel, whose charge of water flows out in twelve hours, were required to be divided into parts, to be evacuated each hour: 1. As the part of time 1 is to the whole time 12, so is the same time 12 to a fourth proportional 144. 2. Divide the altitude of the vessel into 144 equal parts: here the last will fall to the last hour; the three next above to the last part but one; the five next to the tenth hour; lastly, the twenty-three last to the first hour. For since the times increase in the series of the natural numbers 1, 2, 3, 4, 5, &c. and the altitudes, if the numeration be in a retrograde order from the twelfth hour, increase in the series of the unequal numbers 1, 3, 5, 7, 9, &c. the altitudes computed from the twelfth hour will be as the squares of the times 1, 4, 9, 16, 25, &c. Therefore the squares of the whole time, 144, comprehends all the parts of the altitude of the vessel to be evacuated. But a third proportional to 1 and 12 is the square of 12, and consequently it is the number of equal parts in which the altitude is to be divided, to be distributed according to the series of the unequal numbers, through the equal interval of hours.

There were many kinds of clepsydræ among the antients; but they all had this in common, that the water ran generally through a narrow passage, from one vessel to another, and in the lower was a piece of cork or light wood, which, as the vessel filled, rose up by degrees, and shewed the hour. The reader may see a description of a very curious clepsydra given by Mr. Hamilton, in n° 479. of the Philosophical Transactions.

CLEPSYDRA is also used to denote a perforated chemical vessel, and an instrument mentioned by Paracelsus, contrived to convey suffumigations to the uterus.

CLERGY, *clerus*, κληρoς, a general name given to the body of ecclesiastics of the

christian church, in contradistinction to the laity.

The distinction of christians into clergy and laity, was derived from the jewish church, and adopted into the christian by the apostles themselves: whenever any number of converts were made, as soon as they were capable of being formed into a congregation or church, a bishop or presbyter, with a deacon, were ordained to minister to them. Of the bishops, priests, and deacons the clergy originally consisted; but in the third century, many inferior orders were appointed, as subservient to the office of deacon, such as subdeacons, acolythists, readers, &c.

The privileges and immunities which the clergy of the primitive christian church enjoyed, deserve our notice. In the first place, when they travelled upon necessary occasions, they were to be entertained by their brethren of the clergy, in all places, out of the public revenues of the church. When any bishop, or presbyter, came to a foreign church, they were to be complimented with the honorary privilege of performing divine offices, and consecrating the eucharist in the church. The great care the clergy had of the characters and reputations of those of their order, appears from hence, that in all accusations, especially against bishops, they required the testimony of two or three witnesses of good character: nor was any heretic admitted as an evidence, against a clergyman. With regard to the respect paid to the clergy by the civil government it consisted chiefly in exempting them from some kind of obligations to which others were liable, and granting them certain privileges and immunities which others did not enjoy.

By the ecclesiastical laws, no clergyman was allowed to relinquish his station without just grounds and leave: but in some cases resignation was allowed of, as in old age, sickness, or other infirmities. The laws were no less severe against all wandering clergymen, or such, as having deserted their own church, would fix in no other. There were laws which obliged the clergy to constant attendance upon their duty: others inhibited pluralities, or the officiating in two parochial churches; or following any secular employments. Another sort of laws respected the outward behaviour of the clergy; such inhibited them from corresponding or conversing too freely with Jews and gentile philosophers; and there were

canons which restrained them from eating and drinking in taverns, or being present at the public theatres. It was also enacted, that no bishops, presbyters, or deacons should visit widows and virgins alone, but in the company of some other of the clergy, or some grave christians. As to the fashion of their apparel, it does not appear that, for several ages, there were any distinctions observed therein between them and the laity.

The clergy of the church of Rome are distinguished into regular and secular: the regular clergy consists of those monks or religious, who have taken upon them holy orders of the priesthood, in their respective monasteries. The secular clergy are those which are not of any religious order, and have the care and direction of parishes. The protestant clergy are all seculars.

The romish church forbids the clergy of her communion to marry; and pretends that a vow of perpetual celibacy, or abstinence from conjugal society, was required of the clergy as a condition of their ordination, even from the apostolical ages.

The privileges of the english clergy, by the antient statutes, are very considerable: their goods are to pay no toll in fairs or markets; they are exempt from all offices but their own; from the king's carriages, posts, &c. from appearing at sheriff's tourns, or frank-pledges; and are not to be fined or amerced according to their spiritual, but their temporal means. A clergyman acknowledging a statute, his body is not to be imprisoned. If he be convicted of a crime, for which the benefit of clergy is allowed, he shall not be burnt in the hand; and he shall have the benefit of the clergy *in infinitum*, which no layman can have more than once.

The clergy, by common law, are not to be burdened in the general charges of the laity; nor to be troubled nor incumbered, unless expressly named and charged by the statute; for general words do not affect them: thus, if a hundred be sued for a robbery, the minister shall not contribute: neither shall they be assessed to the highway, to the watch, &c.

The revenues of the clergy were antiently more considerable than at present. Ethelwolph, in 855, gave them a tythe of all goods, and a tenth of all the lands in England, free from all secular services, taxes, &c. The charter whereby this

was granted them, was confirmed by several of his successors; and William the conqueror, finding the bishoprics so rich, created them into baronies, each barony containing thirteen knight's fees at least: but since the reformation the bishoprics are much impoverished. The revenues of the inferior clergy, in the general, are small, a third part of the best benefices being antiently, by the pope's grant, appropriated to monasteries, upon the dissolution whereof they became lay-fees. Indeed an addition was made, 2 Annæ, the whole revenues of first-fruits and tenths being then granted to raise a fund for the augmentation of the maintenance of the poor clergy; pursuant to which, a corporation was formed, to whom the said revenues were conveyed in trust, &c.

Benefit of CLERGY is an antient privilege, whereby one in orders claimed to be delivered to his ordinary, to purge himself of felony: this purgation was to be by his own oath, affirming his innocency, and the oath of twelve compurgators, as to their belief of it, before a jury of twelve clerks: if the clerk failed in his purgation, he was deprived of his character, whereby he became a mere layman; or he was to be kept in prison till a pardon was obtained: but if he purged himself, he was set at liberty.

This was formerly admitted, even in cases of murder; but the antient course of the law is much altered upon this head. By the statutes of 18 Eliz. cap. vii. clerks are no more committed to their ordinary to be purged; but every man to whom the benefit of clergy is granted, though not in orders, is put to read at the bar, after he is found guilty, and convicted of such felony, and so burnt on the hand, and set free for the first time, if the ordinary or deputy standing by, do say, *legit ut clericus*, otherwise he shall suffer death.

It appears by our law-books, that laymen that could read, had the privilege of the clergy ever since 25 Edw. III. which allowance never was condemned in parliament, but rather approved of.

Benefit of clergy is taken in many cases.

CLERICAL, in general, denotes something belonging to a clerk. See the article CLERK.

CLERICO ADMITTENDO. See the article ADMITTENDO.

CLERICO CAPTO *per statum mercatorum*, a writ for the delivery of a clerk out of prison,

prison, who is in custody on the breach of a statute-merchant.

CLERICO CONVICTO *commisso gaole in defectu ordinarii deliberando*, a writ that formerly lay for delivering to his ordinary, a clerk who had been convicted of felony, if the ordinary did not challenge him, according to the privileges of clerks in those days.

CLERICO infra sacros ordines constituto non eligendo in officium, is a writ to release one in holy orders, from an office imposed upon him.

CLERK, a word originally used to denote a learned man, or man of letters: whence the term became appropriated to churchmen, who were from thence called clerks or clergymen; the nobility and gentry being usually bred up to the exercise of arms, and none left but the ecclesiastics to cultivate the sciences.

Acephalous CLERKS, a name given to those, in the VIth century, who separated from their bishops, and refused to live in community with them; in contradistinction to canonic clerks, who lived with their bishop, according to the canons.

CLERK is also applied to such as by their course of life, exercise their pens in any court or office, of which there are various kinds: thus,

CLERK of the acts, an officer in the navy-office appointed for recording all orders, contracts, bills, warrants, &c. transacted by the lords of the admiralty and commissioners of the navy.

CLERK of the affidavits, the officer, in the court of chancery, who files all affidavits made use of in court.

CLERK of the assize, the person who writes all things judicially done by the justices of assize, in their circuits.

CLERK of the bails, an officer in the court of king's bench, whose business it is to file all bail-pieces taken in that court, where he always attends.

CLERK of the check, an officer belonging to the king's court, so called because he has the check and controulment of the yeomen of the guard, and all other ordinary yeomen that belong to the king, queen, or prince. He likewise, by himself or deputy, sets the watch in the court. There is also an officer in the navy of the same name, belonging to the king's yards.

CLERK of the crown, an officer, in the king's bench, who frames, reads, and records all indictments against offenders, there arraigned or indicted of any public crime. He is likewise termed clerk of the

crown-office, in which capacity he exhibits informations by order of the court for divers offences.

CLERK of the crown, in chancery, an officer whose business it is constantly to attend the lord-chancellor, in person or by deputy, to write and prepare for the great-seal, special matters of state by commission, both ordinary and extraordinary, viz. commissions of lieutenancy, of justices of assize, oyer and terminer, gaol-delivery, and of the peace; all general pardons, granted either at the king's coronation, or in parliament: the writs of parliament, with the names of the knights, citizens, and burgessees, are also returned into his office. He also makes out special pardons, and writs of execution on bonds of statute-staple forfeited.

CLERK of the declarations, he that files all declarations after they are engrossed, in causes depending in the court of king's bench.

CLERK of the deliveries, an officer of the Tower, whose function is to take indentures for all stores and ammunition issued from thence.

CLERK of the errors, in the court of common pleas, an officer who transcribes and certifies into the king's bench, the tenor of the record of the action on which the writ of error, made out by the curitor, is brought there to be determined. In the king's bench, the clerk of the errors transcribes and certifies the records of causes, by bill, in that court, into the exchequer. And the business of the clerk of the errors in the exchequer, is to transcribe the records certified thither out of the king's bench, and to prepare them for judgment in the exchequer-chamber.

CLERK of the essoins, in the court of common pleas, keeps the essoin-roll, or enters essoins: he also provides parchment, cuts it into rolls, marks the number on them, delivers out all the rolls to every officer, and receives them again when written. See the article ESSOIN.

CLERK of the excheats, an officer in the exchequer, who every term receives the excheats out of the lord-treasurer's remembrancer's office, and writes them out, to be levied for the crown.

CLERKS of the green-cloth. See the article GREEN CLOTH.

CLERK of the hamper, or *banaper*, an officer in chancery, whose business is to receive all money due to the king for the seals of charters, letters patent, commissions, and writs; also the fees due to the

- officers for enrolling and examining them.
- CLERK of the enrollments**, an officer of the court of common pleas, that inrolls and exemplifies all fines and recoveries, and returns writs of entry.
- CLERK of the juries**, an officer of the common pleas, who makes out the writs called habeas corpus and distringas, for juries to appear either in that court, or at the assizes, after the pannels are returned upon the venire facias. He likewise enters into the rolls the awarding these writs, and makes all the continuances till verdict is given.
- CLERK comptroller of the king's household**, an officer of the king's court, authorised to allow or disallow the charges of pursuivants, messengers of the green-cloth, &c. to inspect and controul all defects of any of the inferior officers; and to sit in the counting-house with the lord-steward and other officers of the household, for regulating such matters.
- CLERK of the king's silver**, an officer of the common pleas, to whom every fine is brought, after it has passed the office of the custos brevium; and who enters the effect of writs of covenant, into a book kept for that purpose, according to which all the fines of that term are recorded in the rolls of the court.
- CLERK of the king's great wardrobe**, an officer who keeps an account of all things belonging to the wardrobe.
- CLERK of the market**, an officer of the king's house, to whom is given the charge of the king's measures and weights, the standards of those that ought to be used all over England.
- CLERK of the nichils, or nibils**, an officer of the exchequer, who makes a roll of all such sums as are nichilled by the sheriffs upon their estreats of green wax, and delivers them in to the remembrancer of the treasury, to have execution done upon them for the king. See the article **NIBILS**.
- CLERK of the ordnance**, an officer that registers all orders concerning the king's ordnance in the tower.
- CLERK of the outlawries**, an officer of the common pleas, and deputy to the attorney general, for making out all writs of *capias utlagatum*, after outlawry, to which there must be the king's attorney's name.
- CLERK of the paper-office**, an officer belonging to the king's bench, whose business is to make up the paper-books of special pleadings in that court.
- CLERK of the parliament-rolls**, an officer in the house of lords, and likewise in the house of commons, who records all transactions in parliament, and engrosses them fairly in parchment-rolls.
- CLERK of the peace**, an officer belonging to the sessions of the peace, whose business is to read indictments, inrol the proceedings, and draw the process: he likewise certifies into the king's bench, transcripts of indictments, outlawries, attainders and convictions had before the justices of peace, within the time limited by statute, under a certain penalty. This office is in the gift of the custos rotulorum, and may be executed by deputy.
- CLERK of the pells**, an officer that belongs to the exchequer, whose business is to enter every teller's bill into a parchment roll called *pellis receptorum*, and to make another roll of payments, called *pellis exituum*.
- CLERK of the petty bag**, an officer of the court of chancery, whereof there are three, the master of the rolls being the chief: their business is to record the return of all inquisitions out of every shire, to make out patents of customers, gaugers, comptrollers, &c. liberates upon extents of statutes staple, *conge d'elires* for bishops, summons of the nobility, clergy, and burgesses to parliament, and commissions directed to knights, and others, of every shire, for assessing subsidies and taxes.
- CLERK of the pipe**, an officer of the exchequer, who having the accounts of all debts due to the king, delivered out of the remembrancer's office, charges them in a great roll, folded up like a pipe. He writes out warrants to sheriffs, to levy the said debts on the goods and chattels of the debtors; and if they have no goods, then he draws them down to the treasurer's remembrancer, to write estreats against their lands.
- CLERK of the pleas**, an officer of the exchequer, in whose office all the officers of the court, having special privilege, ought to sue, or be sued, in any action. In this office also actions at law may be prosecuted by other persons, but the plaintiff ought to be tenant or debtor to the king, or some way accountable to him. The under-clerks are attorneys in all suits.
- CLERKS of the privy-seal**, four officers that attend the lord-privy-seal, for writing and making out all things that are sent by warrant from the signet to the privy-seal, and to be passed the great seal; and likewise

likewise to make out privy-seals, upon special occasions of his majesty's affairs, as for loan of money, or the like.

CLERK of the rolls, an officer of the chancery, whose business is to make searches after, and copies of deeds, offices, &c.

CLERK of the rules, an officer of the court of king's bench, who draws up and enters all the rules and orders made in court, and gives rules of course in divers writs.

CLERK of the sewers, an officer who writes and records the proceedings of the commissioners of the sewers.

CLERK of the signet, an officer continually attending upon his majesty's principal secretary, who has the custody of the privy-signet, as well for sealing the king's private letters, as those grants which pass the king's hand by bill signed. There are four of these officers, who have their diet at the secretary's table.

Six CLERKS, officers in chancery, next in degree below the twelve masters, whose business is to enrol commissions, pardons, patents, warrants, &c. which pass the great seal: they were antiently clerici, and forfeited their places if they married. They are also attorneys for parties in suits depending in the court of chancery.

CLERK of the supersedeas, an officer of the common pleas, who makes out writs of supersedeas, forbidding the sheriff to return the exigent upon a defendant's appearing thereto on an outlawry.

CLERK of the treasury, an officer belonging to the court of common pleas, who has the charge of keeping the records of the court, makes out all records of nisi prius, and likewise all exemplifications of records being in the treasury. He has the fees due for all searches; and has under him an under-keeper, who always keeps one key of the treasury-door.

CLERK of the warrants, an officer of the common pleas, whose business is to enter all warrants of attorney for plaintiffs and defendants in suit; and to enrol deeds of bargain and sale, that are acknowledged in court, or before a judge. His office is likewise to estreat into the exchequer all issues, fines, estreats, and amercements, which grow due to the crown in that court.

Riding CLERK. See RIDING.

CLERMONT, a city and bishop's see of France, in the territory of Auvergne, and province of Lyons, about seventy-five miles west of Lyons: east longitude $3^{\circ} 20'$, and north latitude $45^{\circ} 42'$.

CLERODENDRUM, in botany, a genus of the didynamia-angiospermia class of plants, the flower of which consists of only one petal, with a slender and long tube; its upper lip is concave, erect, obtuse, and divided into two segments; and the under lip, being of the length of the upper, is divided into three reflex and obtuse segments: the fruit is a roundish drupe; and the seed is roundish and single.

CLEROMANCY, κληρομαντεία, a sort of divination performed by throwing lots, which were generally black and white beans, little clods of earth, or pebbles; also dice, or such like things, distinguished by certain characters. They cast the lots into a vessel, and having made supplication to the gods to direct them, drew them out, and, according to the characters, conjectured what should happen to them.

CLERUS, a **CLERK**. See the article **CLERK**.

CLETHRA, in botany, a genus of the decandria-monoecia class of plants, the flower of which consists of five roundish, oblong, recto-patent petals, twice the length of the cup, and broadest towards their extremities: the fruit is a roundish capsule inclosed in a cup, and formed of three valves, containing three cells: the seeds are numerous and angular.

CLEVES, or **CLEF**, the capital of the dutchy of Cleve, in the circle of Westphalia, in Germany, situated near the western shore of the river Rhine: east long. $5^{\circ} 36'$, and north lat. $51^{\circ} 40'$. It is subject to the king of Prussia.

CLEVELAND, a district in the north-riding of Yorkshire, from which the noble family of Fitzroy takes the title of duke.

CLEW of a sail, in naval affairs, is the lower corner of it, to which are made fast the sheets and tacks: a square sail hath no clew.

A sail with a great clew, is one with a great goading or sloping down. To spread a clew, is said of a ship that has a very long yard, and therefore has much canvas in her sail.

CLEW-GARNET, a rope made fast to the clew of the sail, and running from thence to the block, seized to the middle of the main and fore-yard, which, in furling, hauls up the clew of the sail close to the middle of the yard.

CLEW-LINE, the same to the top-sails, top-gallant sails, and sprit-sails, that the clew-

clew-garnet is to the main-sail and fore-sail, and has the same use.

In a gulf of wind, when the top-sail is to be taken in, it is usual first to hale home the lee clew of the sail, whereby it becomes easier to take in the sail.

CLIENT, *cliens*, among the Romans, a citizen who put himself under the protection of some great man, who, in respect of that relation, was called patron.

This patron assisted his client with his protection, interest, and goods; and the client gave his vote for his patron, when he sought any office for himself or his friends. Clients owed respect to their patrons, as these owed them their protection.

The right of patronage was appointed by Romulus, to unite the rich and poor together in such a manner, as that one might live without contempt, and the other without envy; but the condition of a client, in course of time, became little else but a moderate slavery.

CLIENT is now used for a party in a lawsuit, who has turned over his cause into the hands of a counsellor or solicitor.

CLIFF, or **CLEF**, in music. See **CLEF**.

CLIFFORTIA, in botany, a genus of the dioecia-icofandria class of plants: it has no corolla; the calyx of the female flower is composed of three leaves, and is situated upon the germen; the styles are two, filiform, long, and plumose; the fruit is an oblong roundish capsule, containing two cells, in each of which there is a single seed, of a round or cylindrical shape.

CLIMACTERIC, *annus climactericus*, among physicians and natural historians, a critical year in a person's life, in which he is supposed to stand in great danger of death.

According to some, every seventh year is a climacteric; but others allow only those years produced by multiplying 7, by the odd number 3, 5, 7, and 9, to be climacterical. These years, they say, bring with them some remarkable change with respect to health, life, or fortune; the grand climacteric is the sixty-third year; but some, making two, add to this the eighty-first: the other remarkable climacterics are the seventh, twenty-first, thirty-fifth, forty-ninth, and fifty-sixth. The credit of climacteric years can only be sup-

ported by the doctrine of numbers introduced by Pythagoras; though many eminent men, both among the antients and moderns, appear to have had great faith in it.

CLIMATE, in geography, a space upon the surface of the terrestrial globe, contained between two parallels, and so far distant from each other, that the longest day in one differs half an hour from the longest day in the other parallel.

The difference of climates arises from the different inclination or obliquity of the sphere: the antients took the parallel wherein the length of the longest day is twelve hours and three quarters for the beginning of the first climate: as to those parts that are nearer to the equator than that parallel, they were not accounted to be in any climate, either because they may, in a loose and general sense, be considered as being in a right sphere, though, strictly speaking, only the parts under the equator are so; or because they were thought to be uninhabited by reason of the heat, and were besides unknown. The antients, considering the diversity there is in the rising and setting of the heavenly bodies, especially the sun, and, in consequence thereof, the difference in the length of the days and nights in different places, divided as much of the earth as was known to them, into climates; and instead of the method now in use, of setting down the latitude of places in degrees, they contented themselves with saying in what climate the place under consideration was situated. According to them, therefore, what they judged the habitable part of the northern hemisphere was divided into seven climates, to which the like number of southern ones corresponded.

A parallel is said to pass through the middle of a climate, when the longest day in that parallel differs a quarter of an hour from the longest day in either of the extreme parallels that bound the climate: this parallel does not divide the climate into two equal parts, but the part nearest to the equator is larger than the other, because the farther we go from the equator, the less increase of latitude will be sufficient to increase the length of the longest day a quarter of an hour.

A Table of CLIMATES according to Ricciolus, wherein the effects of refraction are allowed for.

| Climate. | Paral- lel. | Lati- tude. | Longest day. | Climate. | Paral- lel. | Lati- tude. | Longest day. | Climate. | Para- lel. | Lati- tude. | N. lat. | | S. lat. | |
|----------|----------------|----------------|---------------------|----------|----------------|----------------|---------------------|----------|---------------|----------------|----------------|-----|----------------|-----|
| | | | | | | | | | | | Conti- nual | | Conti- nual | |
| | | | | | | | | | | | D. | N. | D. | N. |
| I. | 1 | 2° 59' | 12 ^m 15' | | 15 | 46° 33' | 15 ^h 45' | | 29 | 66° 2' | 15 | 12 | 14 | 13 |
| II. | 2 m. | 7 18 | 12 30 | VIII. | 16 m. | 48 15 | 16 0 | XV. | 30 m. | 66 53 | 31 | 27 | 30 | 28 |
| | 3 | 11 29 | 12 45 | | 17 | 51 14 | 16 30 | | 31 | 67 43 | 45 | 41 | 44 | 43 |
| III. | 4 m. | 15 36 | 13 0 | IX. | 18 m. | 53 46 | 17 0 | XVI. | 32 m. | 69 30 | 62 | 58 | 60 | 59 |
| | 5 | 19 33 | 13 15 | | 19 | 55 55 | 17 30 | | 33 | 71 8 | 77 | 71 | 74 | 73 |
| | 6 m. | 23 8 | 13 30 | X. | 20 m. | 57 44 | 18 0 | XVII. | 34 m. | 73 0 | 93 | 87 | 89 | 88 |
| IV. | 7 | 26 50 | 13 45 | | 21 | 59 20 | 18 30 | | 35 | 75 56 | 108 | 101 | 104 | 103 |
| | 8 m. | 29 49 | 14 0 | XI. | 22 m. | 60 39 | 19 0 | XVIII. | 36 m. | 78 6 | 124 | 117 | 120 | 118 |
| | 9 | 32 48 | 14 15 | | 23 | 61 47 | 19 30 | | 37 | 81 10 | 139 | 132 | 135 | 134 |
| V. | 10 m. | 35 35 | 14 30 | XII. | 24 m. | 62 4 | 20 0 | XIX. | 38 m. | 84 0 | 156 | 148 | 150 | 149 |
| | 11 | 38 9 | 14 45 | | 25 | 64 12 | 21 0 | | 39 | 87 40 | 172 | 162 | 164 | 163 |
| VI. | 12 m. | 40 32 | 15 0 | XIII. | 26 m. | 65 10 | 22 0 | XX. | 40 m. | 90 0 | 188 | 180 | 178 | 177 |
| | 13 | 42 41 | 15 15 | | 27 | 65 43 | 23 0 | | | | | | | |
| VII. | 14 m. | 44 42 | 15 30 | XIV. | 28 m. | 65 54 | 24 0 | | | | | | | |

Some of the moderns reckon the different climates by the increase of half an hour in the length of the longest day, beginning at the equator, and going on till they come to the polar circle towards the pole; they then count the climates by the increase of a whole natural day, in the length of the longest day, till they come to a parallel, under which the day is of the length of fifteen natural days, or half a month; from this parallel they proceed to reckon the climates by the increase of half or whole months, in the artificial day, till they come to the pole itself, under which the length of the day is six months. Those between the equator and the polar circles, are called hour climates; and those between the polar circles and the poles, month climates. Vulgarly the term climate is bestowed on any country or region differing from one another, either in respect of the seasons, the quality of the soil, or even the manners of the inhabitants, without any regard to the length of the longest day.

CLIMAX, or GRADATION, in rhetoric, a figure wherein the word or expression which ends the first member of a period begins the second, and so on; so that every member will make a distinct sentence, taking its rise from the next foregoing, till the argument and period be beautifully finished; or in the terms of the schools, 'tis when the word or expression, which was predicate in the first member of a period, is subject to a se-

cond, and so on, till the argument and period be brought to a noble conclusion; as in the following gradation of Dr. Tillotson. "After we have practised good actions a while, they become easy; and when they are easy, we begin to take pleasure in them; and when they please us, we do them frequently; and by frequency of acts, a thing grows into a habit; and confirmed habit is a second kind of nature; and so far as any thing is natural, so far it is necessary, and we can hardly do otherwise; nay, we do it many times, when we do not think of it."

CLINCH, in the sea-language, that part of a cable which is bended about the ring of the anchor, and then seized, or made fast.

CLINCHING, in the sea-language, a kind of slight caulking used at sea, in a prospect of foul weather, about the posts: it consists in driving a little oakum into their seams, to prevent the water's coming in at them.

CLINIC, a term applied by the ancient church-historians, to those who received baptism on their death bed.

It was the doctrine of many of the fathers, that baptism washed away all previous sins, and that there was no atonement for sins committed after baptism. On this account many deferred that sacrament till they were arrived at the last stage of life, and were pretty safe from

from the danger of sinning any more.

CLINIC, in a modern sense, is seldom used but for a quack, or rather for an empirical nurse, who pretends to have learned the art of curing diseases by attending on the sick.

CLINIC MEDICINE, *medicina clinica*, was particularly used for the method of visiting and treating sick persons in bed, for the more exact discovery of all the symptoms of their disease.

CLINOIDES, in anatomy, are four small processes in the inside of the os sphenoides, forming a cavity called sella turcica, in the middle of that bone in which lies the glandula pituitaria.

CLINOPODIUM, in botany, a genus of the didynamia-gymnospermia class of plants, whose corolla consists of one ring-gent petal: it has no pericarpium; the cup is contracted at the neck, gibbous at the belly, and contains four roundish seeds.

CLITORIA, in botany, a genus of the diadelphia-decandria class of plants: the flower is papilionaceous: the vexillum is very large, patent, and plicatile: the alæ are oblong and obtuse, and shorter than the vexillum: the carina is shorter than the alæ, and is roundish and hooked: the fruit is a very long pod, compressed, having one cell and two valves; the seeds are numerous, and kidney-shaped.

CLITORIS, or as some call it, *mentula muliebris*, in anatomy, a part of the external female pudenda, situated at the angle which the nymphæ form with each other.

Its common state is to be almost entirely buried under the skin or prepuce. Its general size is that of the uvula, or scarce so much: its shape much resembles the shape of that part, yet it sometimes is found of an extraordinary bigness, as large as the penis: but even in this case, it has no urethra. It has a glans or apex as the penis has, but this is not perforated. It is usually covered with a foetid matter, like that of the glans of the penis. The prepuce covering the glans of the clitoris, is formed of the cutis of the pudendum, and furnished with nervous papillæ: hence it is of exquisite sensibility to the touch. It has also a ligament, by which it is connected to the ossa pubis, in the same manner as the penis is in men. Its use is to produce a titillation in the coitus, and to encrease the pleasure.

CLOACA, in roman antiquity, the com-

mon sewer, by which the filth of the city of Rome was carried away.

It was built with great stones, in the form of an arch, so well fastened and cemented together, that the continual running of water and filth had not damaged it in the space of 700 years. There were many sinks in the city, which all fell into this common sewer; and the officers appointed to take care of this work, and to see it repaired, were called *curatores cloacarum urbis*.

CLOACA, in comparative anatomy, imports the canal in birds, through which the egg descends from the ovary in its exit.

CLOATHED, in the sea-language. A mast is said to be cloathed, when the sail is so long as to reach down to the gratings of the hatches, so that no wind can blow below the sail.

CLOCK, a kind of movement, or machine, serving to measure time.

The invention of clocks is attributed to Pacificus, archdeacon of Verona, who lived in the time of Lotharius; others ascribe it to Boëtius, about the year 510: be that as it will, it is certain that the art of making clocks, such as are now in use, was either first invented, or at least retrieved in Germany, about 230 years ago; and the invention of pendulum clocks, so late as the last age, is disputed between Huygens and Galileo.

Principles of CLOCK and WATCH work.

In all automata, or machines of clock-work, there is a natural agent, or principle of motion, which, by acting on one part, gives motion to that and all the other parts depending upon it, and consequently becomes the primum mobile, or first mover, to the whole machine.

In common clocks and watches, this is of two sorts, *viz.* a spring or a weight; either of which may be made to act with any determinate force: the spring, by its elasticity; and the weight, by its gravity. In these machines this force is required to be such as will overcome the *vis inertiae*, and friction, of all the parts in motion, which in watches is very inconsiderable, but in clocks is much greater, and that in proportion as they are more compounded.

The manner that a weight acts upon the cylinder, about which the line or cord (to which it hangs) is wound, is easy to be understood by all: but the action of the spring coiled up within the cylindric barrel, or box of a clock or watch, is somewhat more nice and mysterious; and



CLOCK-WORK.

Fig. 1.

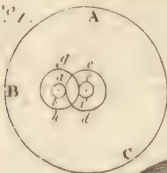


Fig. 2.

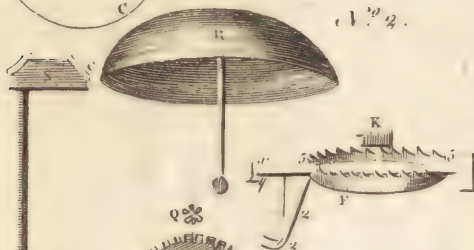
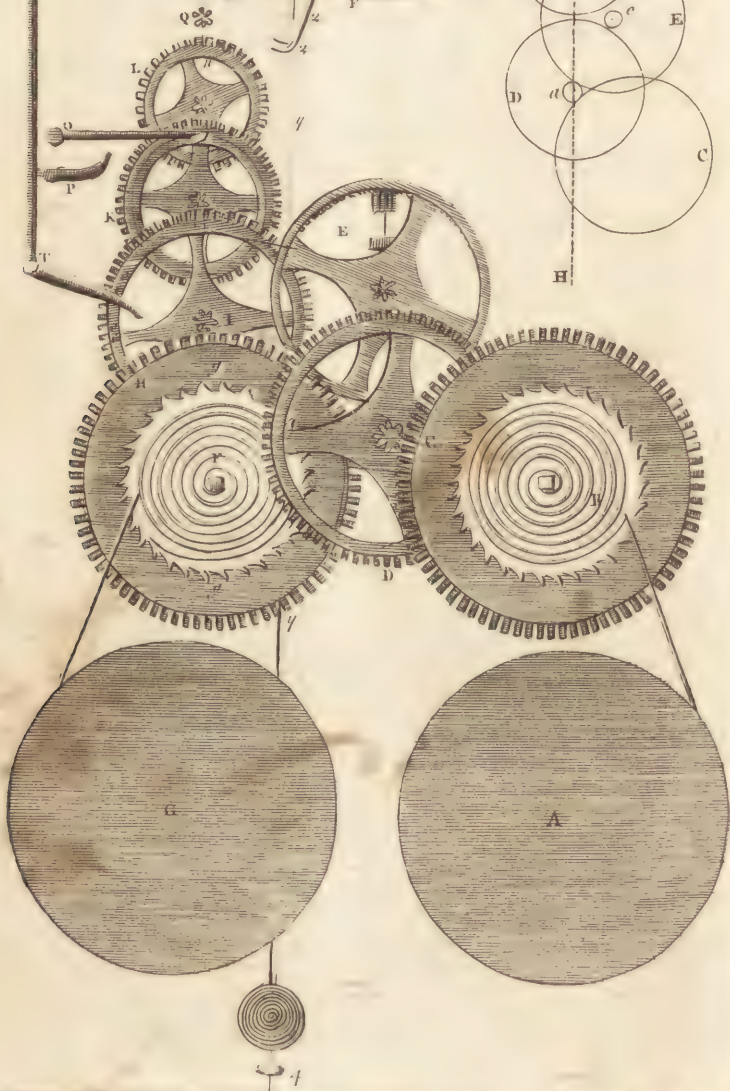
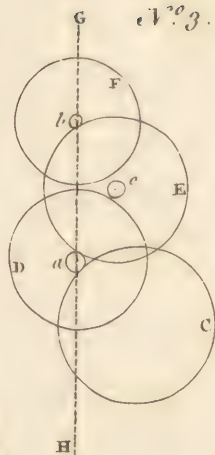


Fig. 3.



and the manner how it acts upon the fusee always with an equal force, by means of the chain and the proper figure of the fusee, for that purpose, is next to be explained.

The chain being fixed at one end of the fusee, and at the other to the barrel; when the machine is winding up, the fusee is turned round, and of course the barrel; on the inside of which is fixed one end of the spring, the other end being fixed to an immovable axis in the center. As the barrel moves round, it coils the spring several times about the axis, thereby encreasing its elastic force to a proper degree: all this while the chain is drawn off the barrel upon the fusee, and then when the instrument is wound up, the spring, by its elastic force endeavouring constantly to unbend itself, acts upon the barrel, by carrying it round, by which the chain is drawn off from the fusee; and thus turns the fusee, and consequently the whole machinery.

Now, as the spring unbends itself by degrees, its elastic force, by which it affects the fusee, will gradually decrease; and therefore, unless there were some mechanical contrivance in the figure of the superficies of the fusee, to cause, that as the spring grows weak, the chain shall be removed farther from the center of the fusee, so that what is lost in the spring's elasticity, is gained in the length of the lever: were it not for this contrivance, the spring's force would always be unequal upon the fusee, and thus would turn the fusee, and consequently the whole machinery unequally. All which is remedied by the conical figure of the fusee. The fusee being acted upon, or put in motion, by an uniform force, the great wheel, which is fixed to it, is put into motion, and that drives the pinion of the center-wheel, which center wheel drives the pinion of the third wheel, and this drives the pinion of the contrate wheel, and this the pinion of the balance-wheel, which plies the two pallets on the axis of the balance, and keeps the balance in motion.

The balance in a watch is instead of the pendulum in a clock, both serving to govern the motion of the whole machinery. To this balance is fixed a small steel spiral spring, which regulates the motions thereof, and makes it equable: whence it has its name of regulator.

When the watch is wound up, the chain from the spring exerts a force upon the

fusee, which gives motion to all the parts of the machine, in the following manner; as will be easy to understand, when the number of teeth in each wheel, and leaves in the pinions which they drive, are specified, and these in modern thirty-hour watches are as follows.

| | Teeth. | Leaves. |
|----------------|--------|------------|
| Great wheel | 48 | 12 |
| Center-wheel | 54 | 6 |
| Third wheel | 84 | 6 |
| Contrate wheel | 8 | 6 |
| Balance-wheel | 15 | 2 pallets. |

Hence it is easy to conceive how often any one wheel moves round in the time of one revolution of that which drives it. Thus the great wheel on the fusee, having forty-eight teeth, and driving the center-wheel by a pinion of twelve, must cause the center-wheel to move round four times in one turn of the fusee, and so for all the rest, as follows.

1) 48 (4 = turns of the center
 6) 54 (9 = turns of the third
 6) 84 (8 = turns of the contrate
 6) 48 (8 = turns of the balance } wheel.

Whence it follows, that the turns of each of these wheels respectively, in one turn of the fusee, will be had by multiplying those several quotients together successively as follows.

$$\begin{array}{rcl}
 & & 1 \\
 & 4 \times 1 = & 4 \\
 & 9 \times 4 \times 1 = & 36 \\
 & 8 \times 9 \times 4 \times 1 = & 288 \\
 8 \times 8 \times 9 \times 4 \times 1 = & 2304 &
 \end{array}
 \left. \begin{array}{l} \text{Turns of the} \\ \text{fusee wheel} \\ \text{center-wheel} \\ \text{third wheel} \\ \text{contrate wheel} \\ \text{balance wheel} \end{array} \right\}$$

See the article BEATS of a watch.

But all that has been hitherto said, shews only the minutes of an hour, and seconds or quarter seconds of a minute; for nothing has been yet mentioned relating to the mechanism for shewing the hour of the day. This part of the work lies concealed from sight, between the upper plate of the watch-frame and the dial-plate. In this work, ABC (plate XLIII. No. 1.) is the uppermost side of the frame-plate, as it appears when detached from the dial-plate: the middle of this plate is perforated with a hole, receiving that end of the arbor of the center-wheel, which carries the minute-hand; near the plate is fixed a pinion *ab* of ten teeth: this is called the pinion of report; it drives a wheel *cd* of forty teeth; this wheel *cd* carries a pinion *ef* of twelve teeth; and this drives a wheel *gb* with thirty-six teeth.

As in the body of the watch the wheels every where divide the pinions, here, on the contrary, the pinions divide the wheels, and by that means decrease the motion, which is here necessary; for the hour-hand, which is carried on a socket fixed on the wheel $g b$, is required to move but once round, while the pinion $a b$ moves twelve times round. To this end the motion of the wheel $c d$ is $\frac{1}{4}$ of the pinion $a b$: again, while the wheel $c d$, or the pinion $e f$, goes once round, it turns the wheel $g b$ but $\frac{1}{3}$ part round; consequently the motion of $g b$ is but $\frac{1}{3}$ of $\frac{1}{4}$ of the motion of $a b$; but $\frac{1}{3}$ of $\frac{1}{4} = \frac{1}{12}$, that is, the hour-wheel $g b$ moves once round in the time that the pinion of report, on the arbor of the center or minute-wheel, makes twelve revolutions, as required.

Having thus shewn the nature and mechanism of a watch, the structure of that part of a clock which is concerned in shewing the time, will easily be understood.

The mechanism of a clock consists of two parts, one to shew the time, the other to report it, by striking the hour upon a bell. Each part is actuated or moved by weights, as in common clocks; or by springs included in boxes or barrels, as that represented by A. (*ibid.* N^o. 2.) This cylinder moves the fusee B, and the great wheel C (to which it is fixed) by the line or cord that goes round each, and answers to the chain of the watch.

The method of calculating is here much the same as before: for, suppose the great wheel C goes round once in twelve hours, then if it be a royal pendulum-clock, swinging seconds, we have $60 \times 60 \times 12 = 43200$ seconds or beats, in one turn of the great wheel. But because there are 60 swings or seconds in one minute, and the seconds are shewn by an index on the end of the arbor of the swing wheel, which in those clocks is in an horizontal position; therefore, it is necessary that the swing wheel should have thirty teeth, whence $60 \div 43200 (= 720)$, the number to be broken into quotients for finding the number of teeth for the other wheels and pinions, as before.

In spring clocks, the disposition of the wheels in the watch-part is such as is here represented in the figure, where the swing wheel F is in an horizontal position, the seconds not being shewn there by an index, as is done in the large pendulum clocks. Whence in these clocks, the

wheels are disposed in a different manner, as represented in N^o. 3. *ibid.* where C is the great wheel, D the center or minute-wheel, both as before; but the contrate wheel E is placed on one side, and F the swing wheel is placed with its center in the same perpendicular line G H, with the minute wheel, and with its plane perpendicular to the horizon, as are all the others. Thus the minute and hour-hands turn on the end of the arbor of the minute-wheel at a, and the second hand on the arbor of the swing-wheel at b.

With regard to the machinery of the striking part of a clock, it is to be observed that, as in the watch part, the primum mobile is a large spring, in the spring-barrel G, (*ibid.* N^o. 2.) but in long pendulums, it is a weight. Thus, by its cord and fusee, it moves the great wheel H; that gives motion to the pin-wheel I; that continues it to the detent or hoop-wheel K, and that to the warning-wheel L, which at last is spent on the flying pinion Q; this carries the fly or fan; and by its great velocity it meets with much resistance from the air it strikes, and by this means bridle the rapidity of the clock's motion, and renders it equable. All these wheels are quiescent, unless when at the beginning of each hour, the detent O is lifted up, by which means the work is unlocked, and the whole put into motion, by means of the spring in the box G. During this motion the pins e, e, e, e, of the pin-wheel I, take the tail of the hammer T, and carrying it upwards, removes the head of the hammer S from the bell R; then being let go by the pin, it is made by a strong spring to give a forcible stroke upon the bell, and this is reported as often as the hour requires, by means of a contrivance in another part. This consists of moveable wheels and several leaves and other parts which cannot be understood by a bare description, or even a representation in a draught, so well as any person may have any idea of by taking off the face or dial-plate of a late-made eight-day clock; for within twenty years past, great improvements have been made in this part of the mechanism.

To the invention of Mr. Maurice Wheeler, we owe the curious contrivance of a clock descending on an inclined plane, the theory of which is very curious, and may be seen in N^o. 161 of the Philosophical Transactions; also the clock

clock itself may be seen in don Saltero's coffee-house at Chelsea. How a clock may be made to ascend on an inclined plane, has been the contrivance of M. de Gennes. See *Philosophical Transactions*, N^o. 140.

Water Clock, clepsydra. See the article *CLEPSYDRA*.

CLOGHER, a city and bishop's see of Ireland, in the county of Tyrone, and province of Ulster, situated twelve miles west of Armagh; west longitude 7° 30', north latitude 54° 16'.

CLOGS, a kind of wooden pattens without rings.

The term clogs is also used for pieces of wood fastened about the necks or legs of beasts, to prevent their running away.

CLOISTER, *claustrum*, an habitation surrounded with walls, and inhabited by religious.

In a more general sense it is used for a monastery of religious of either sex. In the first sense, it is the principal part of a regular monastery, being a square surrounded with walls or buildings. It is commonly placed between the church, the chapter-house, and refectory, underneath the dormitory.

The cloisters, in antient monasteries, served for several purposes: it was here the monks held their lectures; the lectures of morality at the north side, next the church; the school on the west; and the chapter on the east: spiritual meditations, &c. being reserved for the church.

CLOSE, in heraldry. When any bird is drawn in a coat of arms with its wings close down about it (*i. e.* not displayed) and in a standing posture, they blazon it by this word *close*; but if it be flying, they call it *volant*. See *VOLANT*.

CLOSE behind, in the manege, a horse whose hoofs come too close together: such horses are commonly good ones.

To *close* a passade justly, is when the horse ends the passade with a demivolt in good order, well narrowed and rounded, and terminating upon the same line upon which he parted, so that he is still in a condition to part from the hand handsomely, at the very last time or motion of his demivolt.

CLOSE, in music. See *CADENCE*.

CLOSE-FIELD. See the article *FIELD*.

CLOSE FIGHTS, in the sea-language, such bulk-heads as are in a close fight put up fore and aft in a ship, for the men to stand behind them secure, and fire upon

the enemy; and if the ship is boarded, to secure and clear the decks.

CLOSE-FIRE. See *REVERBERATION*.

Pound Close. See the article *POUND*.

CLOSE-QUARTERS. See *QUARTERS*.

CLOSET, in building, denotes a very small room, generally without any chimney: it is esteemed one great improvement of our modern architects.

CLOSET, in heraldry, denotes the half of a bar. See the article *BAR*.

Clerk of the CLOSET, a chaplain who assists the king in his private devotions.

CLOSH, an unlawful game forbidden by stat. 14. Edward IV. cap. 3 and 33. and Henry VIII. cap. 9. It is said to have been much the same with our ninepins.

CLOT-BIRD, the same with the oenanthe of ornithologists. See *OENANTHE*.

CLOTH, in commerce, a manufacture made of wool wove on the loom.

The term is applicable also to other manufactures made of hemp, flax, &c. but in a more particular sense it implies the web or tissue of woollen threads interwoven, some whereof, called the warp, are extended in length from one end of the piece to the other: the rest, called the woof, disposed across the first, or breadth-wise of the piece.

Cloths are of divers qualities, fine or coarse. The goodness of cloth, according to some, consists in the following particulars. 1. That the wool be of a good quality, and well dressed. 2. It must be equally spun, carefully observing that the thread of the warp be finer and better twisted than that of the woof. 3. The cloth must be well wrought and beaten on the loom, so as to be every where equally compact. 4. The wool must not be finer at one end of the piece than in the rest. 5. The lifts must be sufficiently strong, of the same length with the stuff, and must consist of good wool, hair, or ostrich-feathers; or, what is still better, of danish dog's hair. 6. The cloth must be free from knots, and other imperfections. 7. It must be well scoured with fuller's earth, well fulled with the best white soap, and afterwards washed in clear water. 8. The hair or nap must be well drawn out with the teazel, without being too much opened. 9. It must be shorn close without making it threadbare. 10. It must be well dried. 11. It must not be tenter-stretched, to force it to its just dimensions. 12. It must be pressed

pressed cold, not hot pressed, the latter being very injurious to woolen cloth.

Manufacturing of white cloths which are intended for dying.

The best wool for the manufacturing of cloths are those of England and Spain, especially those of Lincolnshire and Segovia. To use those wools to the best advantage, they must be scoured, by putting them into a liquor somewhat more than lukewarm, composed of three parts fair water, and one of urine. After the wool has continued long enough in the liquor to soak, and dissolve the grease, it is drained and well washed in running water. When it feels dry, and has no smell but the natural one of the sheep, it is said to be duly scoured.

After this it is hung to dry in the shade, the heat of the sun making it harsh and inflexible: when dry, it is beat with rods upon hurdles of wood, or on cords, to cleanse it from dust, and the grosser filth; the more it is thus beat and cleansed, the softer it becomes, and the better for spinning. After beating, it must be well picked, to free it from the rest of the filth that had escaped the rods.

It is now in a proper condition to be oiled, and carded on large iron cards, placed slopewise. Olive oil is esteemed the best for this purpose: one fifth of which should be used for the wool intended for the woof, and a ninth for that designed for the warp. After the wool has been well oiled, it is given to the spinners, who first card it on the knee with the small fine cards, and then spin it on the wheel, observing to make the thread of the warp smaller by one third than that of the woof, and much compacter twisted.

The thread thus spun, reeled, and made into skeins, that designed for the woof is wound on little tubes, pieces of paper, or rushes, so disposed, as that they may be easily put in the eye of the shuttle. That for the warp is wound on a kind of large wooden bobbins, to dispose it for warping. When warped, it is stiffened with size, the best of which is that made of shreds of parchment, and when dry, is given to the weavers, who mount it on the loom.

The warp thus mounted, the weavers, who are two to each loom, one on each side, tread alternately on the treddle, first on the right step, and then on the left, which raises and lowers the threads of the warp equally; between which

they throw transversely the shuttle from the one to the other: and every time that the shuttle is thus thrown, and a thread of the woof inserted within the warp, they strike it conjunctly with the same frame, wherein is fastened the comb or reed, between whose teeth the threads of the warp are passed, repeating the stroke as often as is necessary.

The weavers having continued their work till the whole warp is filled with the woof, the cloth is finished; it is then taken off the loom by unrolling it from the beam whereon it had been rolled in proportion as it was wove; and now given to be cleansed of the knots, ends of threads, straws, and other filth, which is done with iron-nippers.

In this condition it is carried to the fullery, to be scoured with urine, or a kind of potter's clay, well steeped in water, put along with the cloth in the trough wherein it is fulled. The cloth being again cleared from the earth or urine, is returned to the former hands to have the lesser filth, small straws, &c. taken off as before: then it is returned to the fuller to be beat and fulled with hot water, wherein a suitable quantity of soap has been dissolved; after fulling, it is taken out to be smoothed, or pulled by the lifts lengthwise, to take out the wrinkles, crevices, &c.

The smoothing is repeated every two hours, till the fulling be finished, and the cloth brought to its proper breadth: after which it is washed in clear water, to purge it of the soap, and given wet to the carders to raise the hair or nap on the right side with the thistle or weed. After this preparation, the cloth-worker takes the cloth, and gives it its first cut or sheering: then the carders resume it, and after wetting, give it as many more courses with the teazle, as the quality of the stuff requires, always observing to begin against the grain of the hair, and to end with it; as also to begin with a smoother thistle, proceeding still with one sharper and sharper, as far as the sixth degree.

After these operations, the cloth being dried, is returned to the cloth-worker, who sheers it a second time, and returns it to the carders, who repeat their operation as before, till the nap be well ranged on the surface of the cloth, from one end of the piece to the other.

The cloth thus wove, scoured, napped and shorn, is sent to the dyer; when dyed,

died, 'tis washed in fair water, and the worker takes it again wet as it is, lays the nap with a brush on the table, and hangs it on the tenters, where it is stretched both in length and breadth sufficiently to smooth it, set it square, and bring it to its proper dimensions, without straining it too much; observing to brush it afresh, the way of the nap, while a little moist, on the tenters.

When quite dry, the cloth is taken off the tenters and brushed again on the table, to finish the laying of the nap; after which it is folded, and laid cold under a press, to make it perfectly smooth and even, and give it a gloss.

Lastly, the cloth being taken out of the press, and the papers, &c. for glossing it removed, it is in a condition for sale or use.

With regard to the manufacture of mixt cloths, or those wherein the wools are first dyed, and then mixt, spun and wove of the colours intended, the process, except what relates to the colour, is mostly the same with that just represented.

CLOUD, in physiology, a collection of vapours suspended in the atmosphere; being a congeries chiefly of watry particles, drawn up from the sea and land by the solar or subterraneous heat, or both, in vapour: though some attribute the rise of the vapours to electricity. See the article **ELECTRICITY**.

If the water that is floating about in the air mounts higher and higher, its particles at length arrive in places so far above the earth, that they are not any longer much united together, but receding from each other, they do not constitute water, but only the elements of it: yet when those elements of water come to descend from the upper regions, and are contracted into smaller spaces, where they associate together and become water, they then form clouds; their density is first augmented, so as to render them opaque enough to reflect the sun's light, and become visible; and their specific gravity being increased, makes them descend in rain.

Clouds, besides their use; when they descend in showers, are of service while suspended in the atmosphere, as they help to mitigate the excessive heat of the torrid zone, and screen it from the beams of the sun, especially when in the zenith. See **VAPOUR** and **ATMOSPHERE**.

Boerhaave is of opinion, that snowy or icy clouds are frequently so disposed in

the atmosphere, as to form reflecting speculums; from whence the sun's rays being repelled, and collected in vast focuses, occasion the many destructive effects attributed to the bad state of the air.

CLOUDBERRY, in botany, the english name of the chamæmorus, a species of rubus. See the article **RUBUS**.

CLOVE-TREE, in botany, the english name of the caryophyllus aromaticus of botanists. See **CARYOPHYLLUS**.

CLOVE, a term used in weights of wool. Seven pounds make a clove.

In Essex, eight pounds of cheese and butter go to the clove.

CLOVER-GRASS is esteemed the principal of grass, on account of its excellency for feeding cattle. The best seed is like that of mustard, only it is rather oblong than round, of a greenish yellow colour, and some of it a little reddish. A rich, light, dry land, is the most proper for it.

CLOUGH, or **DRAUGHT**, among traders, an allowance of two pounds to every three hundred weight, for the turn of the scale, that the commodity may hold out when sold by retail.

CLOUTS, in military affairs, are thin plates of iron nailed on that part of the axle-tree of a gun's carriage, which comes through the nave, through which the lin-pin goes.

CLOYED, in the sea-language, is said of a great gun, the touch-hole of which is stopped up.

CLOYNE, a city and bishop's see of Ireland, in the county of Cork, and province of Munster, about fifteen miles east of Cork: west long. 8°, north lat. 51° 40'.

CLUPEA, in ichthyology, a genus of macropterygious fishes, the characters of which are these: the branchiostege membrane contains eight small bones; and the abdomen is acute and serrated.

To this genus belong the herring, shad, anchovy, and sprat. See the articles **HERRING**, **SHAD**, &c.

CLUSIA, in botany, a genus of the polyandria-monogynia class of plants, the flower of which consists of five large, roundish, patent, concave petals: the fruit is an ovated capsule, with six furrows, having six valves and six cells, containing numerous ovated seeds, covered with a pulp.

CLUTIA, in botany, a genus of the dioecia-gynandria class of plants, the male flower of which consists of five patent, cordated petals: the female flower has persistent petals, as in the male: the fruit

is a globose, scabrous capsule, with six furrows, and three cells, containing solitary, roundish, clear seeds.

CLYDE, a river of Scotland, which, arising in Annandale, runs north-west by Lanerk, Hamilton, and Glasgow, and falls into the frith of Clyde, over-against the isle of Bute.

CLYPEOLA, in botany, a genus of the tetradynamia-siliculosa class of plants, the flower of which consists of four petals of the form of a cross: the fruit is an orbiculated, plano-compressed, erect pod, with two valves, containing orbiculated seeds in the center of the pericarpium.

CLYPEUS, or **CLYPEUM**, a shield or buckler. See the article **SHIELD**.

CLYSSUS, in chemistry, an extract prepared not from one but several bodies mixt together: and among the moderns, the term is applied to several extracts procured from the same body, and then mixed together. Thus, if from wormwood we draw the water, spirit, oil, salt, and tincture, and according to the rules of art re-unite these into a mass compounded of them all, and containing the joint virtues of all, we have a clyssus of wormwood. To this class are reducible many of the noblest productions of chemistry, as the more curious saps, and an infinite number of others.

CLYSSUS of antimony, is a liquor obtained by distillation from a mixture of antimony, nitre and sulphur. It is prescribed to feverish patients, in order to procure a grateful acidity to their potions, and to such as labour under a loss of appetite.

CLYSTER, is a liquid remedy to be injected chiefly at the anus into the larger intestines. It is usually administered by the bladder of a hog, sheep, or ox, perforated at each end, and having at one of the apertures an ivory pipe fastened with packthread. But the French, and sometimes the Dutch, use a pewter syringe, by which the liquor may be drawn in with more ease and expedition than in the bladder, and likewise more forcibly expelled into the large intestines. This remedy should never be administered either too hot or too cold, but tepid; for either of the former will be injurious to the bowels.

Clysters are prepared of different ingredients, according to the different intentions proposed, whether to soften the indurated fæces, correct the acrid, acid and saline recrements, evacuate the contents of the large intestines, corroborate the lan-

guid fibres of the intestines, and augment their impaired peristaltic motion; to mitigate the spasms of the intestinal coats, and relax their constricted fibres; to cause a revulsion downwards in lethargic disorders, apoplexies, frenzies, and other disorders of the head; to promote labour, whether the foetus be living or dead; and to expel the secundines where they are preternaturally detained.

Clysters are sometimes used to nourish and support a patient who can swallow little or no aliment, by reason of some impediment in the organs of deglutition. In which cases they may be made of broth, milk, ale, and decoctions of barley and oats with wine. The English introduced a new kind of clyster, made of the smoke of tobacco, which has been used by several other nations, and appears to be of considerable efficacy when other clysters prove ineffectual, and particularly in the iliac passion, and in the *bernia incarcerata*, though it may likewise be used in an obstinate constipation or obstruction of the bowels, &c. See Heister's surgery, and Graffius's and Sawzonius's dissertation upon the subject, published in the year 1691.

CNEMODACTYLÆUS, in anatomy, a name by which some call one of the extensor muscles of the fingers. See the article **EXTENSOR**.

CNEORUM, in botany, a genus of the triandria-monogynia class of plants: the flower consists of three oblong, lanceolato-linear, concave, erect, deciduous petals: the fruit is a dry, globose, trilobular and trilobular berry, containing solitary roundish seeds.

CNICUS, **SAFFRON-FLOWER**, in botany, a genus of the syngenesia-polygamia-frustranea class of plants: the compound flower is sterculous, difform, and tubulous; the proper hermaphrodite one, infundibuliform and oblong; and the female one of a funnel-form also, but slenderer and longer: the calyx of the hermaphrodite contains solitary seeds, crowned with down: the females prove abortive. See plate XLIV. fig. 1.

COACH, a commodious vehicle for travelling, so well known as to need no description. Their invention was owing to the French about the reign of Francis I. They have, like other things, been brought to their present perfection by degrees: at present they seem to want nothing, either with regard to ease or magnificence. Lewis XIV. of France, made

made divers sumptuary laws for restraining the excessive richness of coaches, prohibiting the use of gold and silver therein, but they have been neglected. In England, and most parts of Europe, the coaches are drawn by horses, except in Spain, where they use mules. In a part of the East, especially the dominions of the great mogul, the coaches are drawn by oxen: in Denmark, they sometimes use rein-deer; but this is rather for curiosity than use. The coachman is ordinarily placed on a seat raised before the body of the coach; but the spanish policy has displaced him in that country by a royal ordinance on occasion of the duke of Olivarez, who found that a very important secret had been discovered and revealed by his coachman. Since which time the place of the spanish coachman, is the same with that of the french stage-coachman, and our postillion.

Coaches are distinguished with regard to their structure into coaches, properly so called, landaus, chariots, berlins, calashes, &c. With regard to the circumstances of their use, we distinguish them into stage-coaches and hackney-coaches. Hackney coaches, are those exposed to hire in the streets of great cities, at rates fixed by authority. In London and Westminster, eight hundred.

Hackney-Coaches are allowed by statute, and these must be licensed by commissioners, and pay a duty to the crown. Any person driving any such coach without licence, forfeits 5 l. The fare of coaches is 10 s. a day, 1 s. 6 d. for the first hour, and 1 s. every hour after; or 1 s. for a mile and four furlongs, and 1 s. 6 d. for two miles.

There are certain places and distances mentioned in the act for the extent of the respective fares, and others rated by the commissioners; and coachmen refusing to go for their fare, are liable to penalties; as also for not having numbers to their coaches.

Stage-Coaches are those appointed for the conveyance of travellers from one city or town to another.

COADJUTOR, is properly used for a prelate joined to another to assist him in the discharge of his function, and even in virtue thereof to succeed him.

Coadjutors were formerly appointed by kings for archbishops and bishops grown old, or absent, and not able to administer in their diocese. But the right of appoint-

ing coadjutors in the romish countries, is now reserved to the pope alone. The popes formerly made a shameful abuse of the coadjutories: some they granted to children; others, to people not in orders; others, to persons at a distance: but the council of Trent tied down the pope's hands, by adding abundance of restrictions on this article. In nunneries, they have coadjutrices, who are religious nominated to succeed the abbess, under pretence of aiding her in the discharge of her office.

COAGMENTATION, among chemists, is the melting any body by casting in certain powders, and afterwards letting the whole concrete into a solid.

COAGULATION, in a general sense, imports a certain change in the state of any liquor, by means of which, instead of retaining its fluidity, it becomes more or less consistent, according to the degree of coagulation.

Apothecaries coagulate fluids in various manners, by evaporation, for instance, or distillation; and this species is called by chemists *coagulatio per segregationem*, or *per separationem*.

COAGULATION, *per comprehensionem*, in chemistry, is when the whole of the fluid, without the loss of any of its parts, is coagulated into an uniform substance. This is performed, 1. With water, by congealing, crystallizing, and precipitating, as in the mercurius vitæ. 2. With oil, which by force of fire unites to itself sulphur, salts, and metals. 3. With alcohol, upon the volatile spirit of sal armoniac, the white of eggs, the serum of the blood, and oil of vitriol. 4. With alcali and acid, growing solid together, as particularly in the tartar of vitriol. 5. With fixed alcali, as in milk. 6. With acid salts, as in milk, serum, and white of eggs.

COAGULUM, is the same with what in english we call rennet, or rather the curd formed thereby. See **RENNET**.

COAGULUM ALUMENOSUM, in pharmacy, is made by stirring any quantity of whites of eggs with a piece of alum of a proper size in a tin-vessel, till they are coagulated; said to be good in defluxions of the eyes.

COAL, or **PIT-COAL**, *lithanthrax*, in natural history. See **LITHANTHRAX**.

Cannel COAL, *ampelites*, in natural history. See the article **AMPELITES**.

Small-COAL, a sort of charcoal prepared from the spray and brush-wood stripped

off from the branches of coppice-wood, sometimes bound in bavin for that purpose, and sometimes charred without binding, and then it is called coming it together.

The wood they dispose on a level floor, and setting a portion of it on fire, they throw on more and more as fast as it kindles, whence arises a sudden blaze, till all be burnt that was near the place. As soon as all the wood is thrown on, they cast water on the heap from a large scoop, and thus keep plying the heap of glowing coals, which stops the fury of the fire; while with a rake they spread it open, and turn it with shovels, till no more fire appears. Then they shovel them up into great heaps, and when thoroughly cold, put them up in sacks, to be used by families for kindling their fires, and by divers artificers, to temper and anneal their several works.

Char-Coal. See the article CHAR-COAL.

COAL-FISH. See the article COLE FISH.

COALITION, the re-union of the parts of a body, before separated. See the article CONGLUTINATION.

COAMINGS, in ship-building, are those planks which raise up the hatches higher than the rest of the deck, in which loopholes for muskets to shoot out are usually made, in order to clear the deck when the ship is boarded by an enemy.

COAST, that part of a country next the sea-shore. See SEA and SHORE.

COASTEMARY, or **COSTEMARY**, in botany. See the article COSTEMARY.

COASTING, that part of navigation where the places assigned are not far distant, so that a ship may sail in sight of land, or within soundings, between them. In this there is only required a good knowledge of the land, the use of the compass and lead, or sounding line.

COASTING, in agriculture, denotes the transplanting a tree, and placing it in the same situation with respect to east, west, south and north, as it stood in before it was transplanted.

COAT, or **COAT of ARMS**, in heraldry, a habit worn by the antient knights over their arms both in war and tournaments, and still borne by heralds at arms. It was a kind of sur-coat, reaching as low as the navel, open at the sides with short sleeves, sometimes furred with ermine and hair, upon which were applied the armories of the knights embroidered in gold and silver, and enamelled with beaten tin-coloured black, green, red and blue;

whence the rule never to apply colour on colour, nor metal on metal. The coats of arms were frequently open, and diversified with bands and fillets of several colours, alternately placed, as we still see cloths, scarleted, watered, &c. Hence they were called devises, as being divided and composed of several pieces sewed together; whence the words, *false, pale, chevron, bend, cross, saltier, lozenge*, &c. which have since become honourable pieces or ordinaries of the shield. See the articles **CROSS, BEND, CHEVRON, &c.**

Coats of arms and banners were never allowed to be worn by any but knights and antient nobles.

COAT, in anatomy. See the articles **TUNICA** and **EYE**.

COAT of MAIL. See the article **MAIL**.

COATS, in a ship, are pieces of tarred canvass put about the masts at the partners to keep out water. They are also used at the rudder's head, and about the pumps at the decks, that no water may go down there.

COATING, in chemistry, the same with lorication. See **LORICATION**.

COBALT, *cobaltum*, a genus of fossils, of the order of the asphurelata: it is a dense, compact, and ponderous mineral, very bright and shining, and much resembling some of the antimonial ores. See the article **ANTIMONY**.

It is sometimes found of a deep bluish-black, very heavy and hard, and of a granulated structure, looking like a piece of pure iron where fresh broken: at other times, it is found more compact, not granulated, but resembling a mass of melted lead on the surface. These are the more ordinary appearances of cobalt, besides which there are other accidental varieties of it, being sometimes found of a florid red, or a red debased by mixtures of grey, black or yellow; and in this state, it either forms an uniform mass, or a beautifully striated and ridged one.

From this mineral are produced the several kinds of arsenic, zaffre, and smalt. See the articles **ARSENIC, ZAFFRE, &c.**

COBALT is also used to denote the damps of mines, so very fatal to the workmen. See the article **DAMP**.

COBITIS, in ichthyology, a genus of malacopterygious fishes, with only five small bones in the branchiostegæ membrane, the first of which is broadest; there are also cirri at the mouth: the body is spotted, and the back fin and those of the belly

Belly are at the same distance from the extremity of the head. There are three species of this fish, the smooth spotted cobitis, with the body somewhat rounded, or the loache; the cobitis, with a bifurcated spine under each eye, or the bearded loache; and the blue cobitis, with five longitudinal black lines on each side, or the fossile mustela: these species are from three to five inches in length, and from half an inch to one inch in thickness. See LOACHE and MUSTELA.

COBLENTZ, CONFLUENTIA, a large city of Germany, in the archbishopric of Triers, and circle of the lower Rhine, situated at the confluence of the Rhine and Moselle, fifty-two miles north-east of Triers, and thirty-six south of Cologne: east longitude $7^{\circ} 15'$, north latitude $50^{\circ} 30'$.

COBLON, a port-town of the hither India, situated on the Coromandel coast, twelve miles south of Fort St. George: east longitude 80° , north latitude $12^{\circ} 50'$.

COBWEB, in physiology, the fine network which spiders spin out of their own bowels, in order to catch their prey. Dried and powdered cobwebs are said to be a good astringent and absorbent.

COCCIFEROUS PLANTS, the same with bacciferous. See BACCIFEROUS.

COCCINELLA, in zoology, a genus of insects, of the coleoptera order, called by Dr. Hill hemisphæria, the characters of which are these: the antennæ are clavated and entire; and the thorax, with the exterior wings, which are marginated, constitutes an hemispherical figure.

Of this genus there are a great many species. 1. The coccinella with red wings, and only two black spots on them. 2. The coccinella with red wings, variegated with longitudinal white lines and spots. 3. The coccinella with red wings, and seven black spots on them: this species is very common with us, and is called the lady-cow. 4. The coccinella with yellow wings. 5. The coccinella with black wings, &c. of each of which there are several varieties, distinguished by their different spots.

COCCOTHAUSTES, the GROSS-BEAK, or HAW-FINCH, in ornithology, a species of loxia, distinguished by having a double line of white on the wings. See the article LOXIA.

It feeds on the kernels in the stones of fruits, which it breaks with great dexterity, whence its name of coccothraustes. The *virginian coccothraustes* is a bird

about the size of a black-bird, distinguished from the former species by its crest, and beautiful scarlet-colour.

COCCLUS, in zoology, a genus of two-winged insects, the wings of which stand erect, and are only to be found in the males: add to this, that the rostrum, or trunk, arises from the breast, and the body is setose behind.

To this genus belong, 1. The purple coccus of the roots of plants, called by some german cochineal: it dyes a beautiful scarlet colour. 2. The kermes or coccus of the ilex. 3. The coccus of insects. 4. The cochineal-insect, or coccus of the tuna: with several other species. See the articles KERMES and COCHINEAL.

COCYGYÆUS MUSCULUS, in anatomy, a name sometimes used for the sphincter of the anus. See the article SPHINCTER.

COCYX, or **COCYGIS OS**, in anatomy, a bone situated at the extremity of the os sacrum. See the article OSTEOLOGY.

The figure of it is something like that of an inverted pyramid, a little bent forward towards the pelvis: in adults it is usually of a single bone; but in younger subjects it consists of three or four frustæ, and in infants it is merely cartilaginous. In quadrupeds of many kinds, this bone is long, composed of a number of frustæ, is bent forward, and constitutes the tail; in this case it is called the os caudæ.

COCHIA, in pharmacy, a name for certain officinal pills, as the greater pill cochiae and the lesser pill cochiae: the former is a composition taken from Rhafes, and hardly ever used in the present practice; the latter, being the most in use of any under this class, is compounded of equal quantities of bright aloes, the purest scammony, and the pulp of colocynth, which are made into a mass with a sufficient quantity of syrup of buckthorn, adding thereto two drams of the distilled oil of cloves. They are prescribed to discuss viscidities, watry humours, and flatulencies.

COCHIN, a port-town of India, on the Malabar coast, about one hundred miles south of Calicut: west longitude 75° , and north latitude $9^{\circ} 30'$.

Here the Dutch have a factory, and a very strong fort.

COCHIN-CHINA, a kingdom of India, situated between 104° and 109° east longitude, and between 10° and 17° north latitude; being bounded by the kingdom of Tonquin on the north, by the indian

ocean on the east and south, and by the kingdom of Cambodia on the west: it is upwards of four hundred miles long, and one hundred and fifty broad, producing chiefly silk and rice.

COCHINEAL, or **COCHINEEL**, in commerce, was, till of late, supposed to be a vegetable production, a seed, or an effluence of a plant; but is now acknowledged to be the female of a species of coccus, called the coccus of the tuna, from its living on the tuna opuntia, or indian fig. See the article **COCCUS**.

There are two sorts of it, the mesticque, which is esteemed the finest, and the wild, which is less valuable; the difference being occasioned only by the extraordinary care that is taken of the one by being supplied with food of a proper kind, the other living wild without the like care. It is brought from Mexico, and some other parts of South America, where the inhabitants find it so very advantageous an article of commerce, that they make plantations of the opuntia, and regularly breed and manage their crops, sending such vast quantities of it to Europe, that it is computed there is no less than eight or nine hundred thousand weight annually imported from Spanish America.

With us it pays no duty; and is esteemed a great cordial, sudorific, alexipharmic, and febrifuge; and much used by dyers and painters, the high crimson colour it affords being scarce equalled by any thing, and making, according to their different management of it, all the degrees and kinds of red.

COCHLEA, the **SNAIL-SHELL**, in zoology, a genus of univalve shell-fish, of a spiral figure, and containing only one cell. This is a very comprehensive genus, and therefore subdivided into three series, *viz.* 1. The cochleæ which have a round or nearly round mouth, called cochleæ lunares. 2. The cochleæ with a semicircular mouth, called cochleæ semilunares. 3. The cochleæ with a narrow oval mouth, as if the sides were crushed together, called cochleæ ore depresso. See plate XLIV. fig. 2.

COCHLEA, in anatomy, the third part of the labyrinth of the ear. See **EAR**.

It is placed opposite to the semicircular canals, and formed in the manner of a snail-shell, making its progress two turns and a half, in a spiral form. In this we are to remark the nucleus, and the canal, which is divided into two by a spiral lamina; the upper of these opens into the

vestibulum, and is called *scala vestibuli*; and the lower, which terminates in the hollow of the tympanum, through the fenestra rotunda, is called *scala tympani*.

COCHLEA, the **SCREW**, in mechanics. See the article **SCREW**.

COCHLEARIA, **SCURVY-GRASS**, in botany, a genus of the tetradynamia-filicula class of plants, the flower of which consists of four vertically ovated petals, of the form of a cross; the fruit is a subcordated, lightly compressed, scabrous, bilocular pod, containing about four seeds in each cell.

It is heating, drying, and aperitive, of great use against the scurvy, dropfy, and jaundice; and is often put into diet-drinks for those purposes; it must be remembered, however, that scurvy-grass, and such warm plants, are only proper in an acid scurvy, being very pernicious in a putrid alkaline scurvy.

COCK, *gallus*, in zoology, the english name of the males of gallinaceous birds, but more especially used for the common dunghill-cock. See the article **GALLUS**.

Game-COCK. See **GAME COCK**.

Gor-COCK. See the article **GOR-COCK**.

Indian-COCK, *crax*. See **CRAX**.

Wood-COCK. See the article **WOOD-COCK**.

COCK BOATS, among sailors, those used only in rivers, or near the shore.

COCK'S COMB, in botany, a name given to a species of pedicularis, as well as to a species of amaranth. See the articles **PEDICULARIS** and **AMARANTH**.

COCK-PIT, a sort of theatre upon which game cocks fight.

COCK-PIT, in a man of war, a place on the lower floor, or deck, abaft the main-capstan, lying between the platform and the steward's room, where are partitions for the purser, surgeon, and his mates.

COCK-SWAIN, or **COXSON**, an officer on board a man of war, who has the care of the barge and all things belonging to it, and must be also ready with his crew to man the boat on all occasions: he sits at the stern of the boat, and steers.

COCK-WATER, among miners, a stream of water, brought into a trough, to wash away the sand from tin-ore, while stamping in the middle.

Cocks, on ship-board, are little square pieces of brass, with holes in them, put into wooden shivers, to keep them from splitting and galling by the pin of the block.

COCKERMOUTH, a borough-town of Can-

Cumberland, situated on the river Derwent, near the Irish sea, about twenty-five miles south-west of Carlisle: west long. $3^{\circ} 10'$, and north lat. $54^{\circ} 35'$.

It sends two members to parliament.

COCKET is a seal belonging to the king's custom-house, or rather a scroll of parchment sealed and delivered by the officers of the customs to merchants, as a warrant that their merchandises are customed.

It is also used for the office where goods, transported, were first entered, and paid their custom, and had a cocket or certificate of discharge.

COCOA, or **CACAO**, in botany, the same with the theobroma of Linnaeus. See the article **THEOBROMA**.

COCONATO, a town of Italy, in the province of Piedmont, about twenty miles east of Turin; it is said to be the birth-place of the famous Columbus, who discovered America: east long. 8° , and north lat. $44^{\circ} 50'$.

COCOS, the **Coco**, in botany, a genus of plants, the characters of which are not perfectly ascertained. There are male, hermaphrodite flowers, and female ones, distinct on the several parts of the same spadix; the general spatha is composite, and the spadix ramose. In the hermaphrodite flowers, the corolla is divided into three oval, acute segments; the stamina are six simple filaments, of the length of the corolla. The female flower has the corolla very minute, but divided also into three segments; the fruit is large, coriaceous, round, and obtusely trigonal; the seed is a large nut, of an oval figure, acuminate, formed of three valves, obtusely trigonal, and marked with three holes at the base.

The shell of the coco nut is much used by turners, carvers, &c. for divers works. While the nuts are new, and the bark tender, they yield each about half a pint of clear cooling water, which in a little time becomes first a white soft pulp, and at length condenses, and assumes the taste of the nut. The tree yields fruit thrice a year, and those sometimes as big as a man's head; but the cocos of the Antilles are not so large as those of the East-Indies. In the kingdom of Siam, the cocos-fruit, dried and emptied of its pulp, serves as a measure both for things liquid and dry.

COCTION, a general term for all alterations made in bodies by the application of fire or heat: of this there are various species, as maturation, friction, assation,

elixation, ussion, &c. See **ASSATION**, **FRICTION**, &c. and also the articles **CONCOCTION** and **DECOCTION**.

COD, in ichthyology, the english name of the variegated gadus with three fins on the back, a cirrated mouth, and the upper jaw longest, called by different authors *asellus varius* and *asellus striatus*. See the article **GADUS**.

This fish receives different denominations from the places where it is caught and cured, as haberdeen, from Aberdeen in Scotland; green-fish, from Greenland; iceland-fish, from Iceland, &c. and it is also called stock-fish, because it requires to be beaten with sticks before it can be dressed.

COD is also a term used, in some parts of the kingdom, for a pod. See **POD**.

COD-FISHERY. See **FISHERY**.

COD-CAPE, in geography, a promontory on the coast of New-England, near the entrance of Boston-harbour: west long. $69^{\circ} 50'$, and north latitude 42° .

CODA, in the italian music, two or three measures, which, repeated several times, at the end of a canon or fugue, serve to end the piece.

Coda, in ancient compositions, is when one part continues on a sound, which is its cadence, while the others proceed to modulate for four, five, six, or more bars.

CODDY-MODDY, in ornithology, the english name of a species of larus with a grey back and white rump. See the article **LARUS**.

CODE, *codex*, a collection of the laws and constitutions of the roman emperors, made by order of Justinian.

The code is accounted the second volume of the civil law, and contains twelve books, the matter of which is nearly the same with that of the digests, especially the first eight books; but the stile is neither so pure, nor the method so accurate as that of the digests; and it determines matters of daily use, whereas the digests discuss the more abstruse and subtle questions of the law, giving the various opinions of the antient lawyers. Although Justinian's code is distinguished by the appellation of Code, by way of eminence, yet there were codes before his time; such were the gregorian code and hermogenean code, collections of the roman laws made by two famous lawyers, Gregorius and Hermogenes, which included the constitutions of the emperors from Adrian to Dioclesian and Maximianus.

aus. 2. The theodosian code, comprised in sixteen books, formed out of the constitutions of the emperors from Constantine the great to Theodosius the younger: this was observed almost over all the west, till it was abrogated by the justinian code. There are also several latter codes, particularly the antient gothic, and those of the french kings, as the Code of Euridic, Code-Lewis, Code-Henry, Code-Marchande, Code des Eaux, &c. and the present king of Prussia has lately published a code, which comprizes the laws of his kingdom in a very small volume.

CODEX, in antiquity, denotes a book or tablet, on which the antients wrote.

It was of the bark of a tree, of ivory, of parchment, or of paper.

CODEX was also a log fastened to the foot of a delinquent slave.

CODIA, among botanists, signifies the head of any plant, but more particularly a poppy-head, whence its syrup is called diacodium.

CODICIL is a writing by way of supplement to a will, when any thing is omitted which the testator would have added, or wants to be explained, altered, or recalled. It is of the same nature with a will or testament, except that it is made without an executor; and one may leave behind him but one will, though as many codicils as he pleases. There is this further difference between a codicil and a testament, that a codicil cannot contain the institution of an heir, and is not subject to the same formalities prescribed by law for solemn testaments. Codicils are always taken as part of the testament, and ought to be annexed to the same; and the executor is bound to see them performed: and in case they are detained from him, he may compel their delivery up, in the spiritual court.

CODLIN, an apple useful in the kitchen, being proper for baking.

CODLING, an appellation given to the codfish, when young. See the article **COD**.

COECUM, in anatomy, the first of the three large intestines, called, from their size, *intestina crassa*. The coecum is situated at the right os ilium, and resembles a bag, and has a vermiform appendage fixed to it. It begins at the termination of the ilium, and terminates in the bottom of the bag which it forms: its length is not more than three or four finger's breadth. In the appendage, opening into the side of the coecum, there are some

glands, which, together with its erect situation, as that is usually the case, seems to shew that some fluid is secreted there. In hens, this is double, as also in many other fowls. In fishes there are frequently a vast number of them; in some species, no less than four hundred, according to Dr. Grew. In man this appendage is, at the utmost, single, and is often wanting. See the articles **APPENDICULA** and **VERMIFORMES**.

COEFFICIENTS, in algebra, such numbers, or given quantities, as are put before letters, or unknown quantities, into which letters they are supposed to be multiplied: thus, in $3a$, or bx , or cx ; 3 is the coefficient of a , b of bx , and c of cx .

When no number is prefixed, unit is supposed to be the coefficient; thus x is the coefficient of a or of b .

In a quadratic equation, the coefficient is, according to its sign, either the sum or the difference of its two roots.

In any equation, the coefficient of the second term is always equal to the sum of all the roots, keeping their proper signs.

The coefficient of the third term is the sum of all the rectangles, arising by the multiplication of every two of the roots, how many ways soever these combinations of two can be had, as three times in a cube, six in a biquadratic equation, &c. See the article **EQUATION**.

The coefficient of the fourth term is the aggregate of all the solids made by the continual multiplication of every three of the roots, how often soever such a ternary may be had, and so on *ad infinitum*.

COEFFICIENTS of any generating term in fluxions, is the quantity arising from the division of that term, by the generated quantity.

COELESTIAL, in general, denotes any thing belonging to the heavens: thus we say, celestial observations, the celestial globe, &c.

Celestial observations are those made by astronomers upon the phenomena of the heavenly bodies, with a suitable apparatus of astronomical instruments, in order to determine their places, motions, phases, &c. The instruments chiefly made use of, in astronomical observations, are the astronomical gnomon, quadrant, micrometer, and telescope. See **GNOMON**, **QUADRANT**, &c.

Observations in the day-time are easy,

in regard the cross-hairs in the focus of the object-glass of the telescope are then distinctly perceivable: in the night, those cross-hairs are to be illuminated, to make them visible. This illumination is either performed by a candle placed obliquely near them, so as the smoke does not intercept the rays; or where this is inconvenient, by making an aperture in the tube of the telescope, near the focus of the object-glass, through which a candle is applied to illumine the cross-rays.

Observations on the sun are not to be made without placing a glass, smoked in the flame of a lamp or candle, between the telescope and the eye.

COELESTIAL GLOBE. See **GLOBE**.

COELIAC ARTERY, in anatomy, that artery which issues from the aorta, just below the diaphragm.

The trunk of this artery is very short, and near its origin it sends off from the right side two small diaphragmatic branches, sometimes only one; and is afterwards distributed into right and left, communicating with other arteries of the same name, which come from the intercostal and mammary arteries.

The right branch of this sends the right gastric and epiploic, the pancreatic and the duodenic, the hepatic and the double cystic arteries.

The left branch of it sends off the left gastric and epiploic arteries, the gastro-epiploic, the great splenic, and also many of the pancreatic arteries.

COELIAC PASSION, in medicine, a kind of flux, or diarrhoea, wherein the aliments, either wholly changed, or only in part, pass off by stool.

Dr. Freind says, that the most rational and successful method of treating the coeliac passion, is to administer such remedies as gently stimulate the intestinal tube, and deterge the obstructed glands: for this purpose, purges administered in small quantities, and frequently repeated, and gentle vomits of ipecacuanha are recommended.

Authors frequently confound the coeliac passion with the lientery, but they are different. See the article **LIENTERY**.

COELIAC DIABETES, called also coeliaca urinialis, is a disorder wherein the chyle passes off, along with, or instead of urine. See the article **DIABETES**.

COELIAC VEIN, in anatomy, that running through the intestinum rectum, along with the coeliac artery.

COELOMA, among physicians, a hollow ulcer seated in the cornea tunica of the eye.

COELUM, HEAVEN. See **HEAVEN**.

COEMETERY, or **CEMETERY**, a dormitory or place set apart or consecrated for the burial of the dead. See the article **BURIAL**, **SEPULCHRE**, &c.

Antiently none were buried in churches or church-yards: it was even unlawful to inter in cities; instead of which they had coemeteries without the walls. These were held in great veneration among the primitive christians. The council of Elvira prohibited the burning of torches or tapers, in the day time, in coemeteries. The practice of consecrating coemeteries is of some antiquity: the bishop walked round it in procession, with the crozier, or pastoral staff, in his hand, the holy water-pot being carried before, out of which aspersions were made. In the early ages, the christians held their assemblies in the coemeteries, as we learn from Eusebius and Tertullian, the latter of whom calls those coemeteries where they met to pray, *aræ*. Valerian seems to have confiscated the coemeteries, and places destined for divine worship, which were restored again to the christians by Gallian: in the rescript of that emperor, which is preserved by Eusebius, coemeteries and places of worship are used as synonymous terms. It being here the martyrs were buried, the christians chose those places to have churches in, when leave was given them by Constantine to build. And hence some derive that rule which still obtains in the church of Rome, never to consecrate an altar, without putting under it the relics of some saint.

COENOBITE, in church-history, one sort of monks in the primitive christian church.

They were so called *απὸ τῆ κοινῆ βίῃ*, from living in common, in which they differed from the anachorites, who retired from society. See **ANACHORET**.

The coenobitic life, says Cassian, took its rise from the times of the apostles, and was the state and condition of the first christians, according to the description given of them by St. Luke, in the Acts.

Cœnobite, in a modern sense, is a religious who lives in a convent or community, under certain rules.

CO-EQUALITY, among christian divines, a term used to denote the equality of the three persons in the trinity. See the article **TRINITY**.

The

The orthodox maintain, and the arians deny, this co-equality.

COESFELDT, a town of Germany, in the bishopric of Munster and circle of Westphalia, situated on the river Birket, about twenty-three miles west of Munster: east longitude $6^{\circ} 40'$, and north latitude $51^{\circ} 30'$.

CO-ETERNITY, among christian divines, imports the eternal existence of two or more beings: it is chiefly used in speaking of the persons of the trinity.

COEUR, in heraldry, a short line of partition in pale, in the center of the escutcheon, which extends but a little way, much short of the top and bottom, being met by other lines, which form an irregular partition of the escutcheon. See plate XLIV. fig. 3.

CO-EXISTENCE, the existence of two or more things at the same time.

COFFEA, the **COFFEE-TREE**, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of a single petal, of an infundibuliform shape; the tube is cylindric and slender, many times longer than the cup; the limb is plane, longer than the tube, and divided into five segments of a lanceolated figure, with their edges bent backwards; the fruit is a round berry, with an umbilicated point; the seeds are two, of an elliptico-hemispheric figure, gibbose on one side, plane on the other, and wrapped up in a membrane.

For the virtues and properties of this fruit, see the next article.

COFFEE, or **COFFEE-BERRIES**, the fruit of the coffea. See the preceding article.

We have properly two species of coffee, the one thicker, heavier, and of a paler colour, brought from Mocha; the other is thinner, and generally of a greenish cast, and is brought us from Grand Cairo in Egypt.

Both kinds have the same qualities: neither of them has much smell, till roasted, and both are of a farinaceous, leguminous taste while raw. Coffee is to be chosen firm, solid, and large, not easily broken, sufficiently dry, and of no bad smell: what is damp or musty may be sometimes reduced to a tolerable taste in roasting, if not too far gone, but it is never equal to the more perfect kind.

Coffee was wholly unknown to the Greeks, and even to the arabian writers: the earliest knowledge of it is about three hundred and fifty years standing, and it has not been used above a third part of

that time in Europe. Coffee is rather used as a food than as a medicine, yet it is so much in every one's way, that is, the liquor made of it, that it is proper for people to know, that it is very drying, and therefore in disorders of the head, from fumes and too great moistures, very serviceable by its absorbent qualities: this they must experience, who try it after a debauch of wine, or strong liquors. But in thin and dry constitutions it is very hurtful, as it dries the nerves too much, and is apt to make them tremble, as in palsies: by the same means it promotes watching, by bracing the fibres too tense for that relaxation which is necessary for sleep; though in a case of extraordinary defluxion of rheum from the glands about the head and stomach, in a cold constitution, occasioning a great hindrance from sleep, coffee, by absorbing the superfluous, and continually distilling rheum, procures sleep. The coffee is also a stomachic and aperient: it is found to assist digestion, and to be good against flatulences; and a custom of drinking it is of great service against habitual suppressions of the menses: it attenuates and dissolves the inspissated humours, and always proves diuretic, and sometimes gently cathartic.

Coffee pays on importation 1 l. 13 s. 6 d. the hundred weight; the drawback on exportation is 1 l. 10 s. 2 d.

Upon payment of the above duty, the coffee is to be put into warehouses, and upon delivery from thence, if to be consumed in Great Britain, is to pay for every hundred weight 8 l. 8 s. if of the british plantations in America, and 11 l. 4 s. if it comes from any other place.

COPPER, a long square box, of the firmest timber, about three feet long, and one and an half broad, wherein tin-ore is broken to pieces in a stamping-mill.

COPPER, in architecture, a small depression or sinking of each interval between the modillions of the corinthian cornice: generally filled up with a rose, sometimes with a pomegranate, &c.

COPPER, in fortification, a hollow lodgment athwart a dry moat, from six to seven feet deep, and from sixteen to eighteen broad, the upper part being made of pieces of timber, raised two feet above the level of that moat, which little elevation has hurdles, laden with earth, for its covering, and serves as a parapet with embrasures.

The besieged generally make use of these coffers

coffers to repulse the besiegers, when they attempt to pass the ditch: they are distinguished only by their length from the caponiers, which are likewise somewhat less in breadth; and it differs from the traverse and gallery, in that these are made by the besiegers, and the coffer by the besieged. To save themselves from the fire of these coffers, the besiegers epaule, or throw up the earth, on that side towards the coffer.

COFFERER of the king's household, a principal officer in the court, next under the comptroller, who, in the compting-house, and elsewhere at other times, has a special charge and oversight of other officers of the house, for their good demeanor and charge in their offices, to all which he pays their wages.

COFFIN, in a general sense, a wooden box or trunk, into which the bodies of dead persons are put, in order for burial.

COFFIN, in the manege, the whole hoof of a horse's foot, above the coronet, including the coffin-bone, the sole, and the frush.

COFFIN-BONE is a small spongy bone, inclosed in the midst of the hoof, and possessing the whole form of the foot.

COGITATION, a term used by some for the act of thinking. See **THINKING**.

COGNATION, in the civil law, a term for that line of consanguinity, which is between males and females; both descended from the same father; as agnation is for the line of parentage between males only descended from the same stock.

In France, for the succession to the crown, they follow agnation; in England, Spain, &c. cognation: women coming to the succession according to the degree of proximity, in default of males, or their descendants, from branch to branch.

COGNI, the capital of Caramania, in the lesser Asia, antiently called Iconium, about two hundred and fifty miles south-east of Constantinople: east longitude 33°, and north latitude 38°.

COGNISE'E, or **CONNUSE'E**, in law, is the person to whom a fine of lands, &c. is acknowledged, &c.

COGNISOR, or **CONNUSER**, is he that passeth or acknowledgeth a fine of lands and tenements to another.

COGNITIONIBUS MITTENDIS, in law, a writ directed to any of the king's justices of the common pleas, who, having a power to take fines, actually takes them, but neglects to certify them, commanding him to certify the same.

COGNIZANCE, or **COGNISANCE**, in heraldry. See the article **CREST**.

VOL. I.

COGNIZANCE, or **CONUSANCE**, in law, has divers significations: sometimes it is an acknowledgement of a fine, or confession of something done; sometimes the hearing of a matter judicially, as to take cognizance of a cause; and sometimes a particular jurisdiction, as cognizance of pleas is an authority to call a cause or plea out of another court, which no person can do but the king, except he can shew a charter for it. This cognizance is a privilege granted to a city or town, to hold plea of all contracts, &c. within the liberty; and if any one is impleaded for such matters in the courts at Westminster, the mayor, &c. of such franchise may demand cognizance of the plea, and that it be determined before them.

COGNIZANCE is also used for a badge on a waterman's or serving-man's sleeve, which is commonly the giver's crest, whereby he is discerned to belong to this or that nobleman, or gentleman.

COGNOMEN, in roman antiquity, the third or family name of a person. See the article **AGNOMEN**.

COGNOVIT ACTIONEM, in law, is where a defendant acknowledges the plaintiff's cause against him to be true, and, after issue joined, suffers judgment to be entered against him, without a trial.

COGS, or **COGGLES**, a kind of flat-bottomed boats used in rivers.

CO-HABITATION, among civilians, denotes the state of a man and a woman who live together like husband and wife, without being legally married.

By the common law of Scotland, co-habitation for year and day, or a complete twelve-month, is deemed equivalent to matrimony.

CO-HEIR, one who succeeds to a share of an inheritance, to be divided among several.

Female co-heirs are, by the law of England, called coparceners. See the article **CO-PARCENERS**.

COHESION, in philosophy, that action by which the particles of the same body adhere together, as if they were but one.

The cause of this cohesion has extremely perplexed the philosophers of all ages. In all the systems of physics, matter is supposed, originally, to consist of minute indivisible atoms; but how, and by what principle these several and distinct corpuscles should come first combined into little systems, and how they should come to persevere in that state of union, is a point not yet determined: a point of the greatest

greatest difficulty, and even of the greatest importance of any in physics. J. Bernoulli thinks it owing to the pressure of the atmosphere; others, to the figure of the component particles; but the generality, with Sir Isaac Newton, to attraction. See the article **ATTRACTION**.

Instead, however, of entertaining our readers with refined speculations of this kind, which are more curious than useful, we shall subjoin a table of the different force of cohesion in different bodies, as ascertained by the ingenious Muschenbroeck: this force he estimated by the weights required to pull them asunder, drawing according to their length: the pieces of wood were of a long square form, of which each side was $\frac{2}{100}$ of an inch; and his experiments upon metals were made by suspending weights to wires of each sort, whose diameter was $\frac{1}{10}$ of a rhinland inch, or $\frac{135}{139}$ of an inch english. The result of all which experiments may be seen in the following table.

| Bodies to be drawn asunder. | Weights capable of doing it. |
|--------------------------------|---------------------------------|
| Wood of the linden-tree | 1000 lb |
| of alder | 1000 |
| of fir | 600 |
| of oak | 1150 |
| of elm | 950 |
| of beech | 1250 |
| of ash | 1200 |
| Copper | 299½ |
| Yellow brass | 360 |
| Gold | 500 |
| Silver | 370 |
| Iron | 450 |
| Tin | 40½ |
| Lead | 29½ |

These were the different forces of cohesion in bodies, when pulled length-ways: and in order to try their transverse cohesion, or when the force acted in a direction perpendicular to their length, he fixed one of the ends of the same pieces of wood as before, into a square hole of a metal-plate, and then hung weights on the other end, sufficient to break each piece at the said hole. These weights, and distances from the hole, were as follows:

| Pieces of wood. | Distances. | Weights. |
|-----------------|------------|----------|
| Fir | 9 inches. | 40 oz. |
| Oak | 8½ | 48 |
| Elm | 9 | 44 |
| Pine | 9½ | 36½ |
| Alder | 9¼ | 48 |
| Beech | 7 | 56½ |

COHOBATION, in chemistry, the returning a liquor distilled from any substance, back upon the same substance, and distilling it again, either with or without an addition of fresh ingredients.

The design of this operation is to procure the united virtues of any substance in their utmost strength. Cohobated waters are much extolled by Boerhaave.

COHORT, *cohors*, in roman antiquity, the name of a part of the roman legion, comprehending about six hundred men. There were ten cohorts in a legion, the first of which exceeded all the rest, both in dignity and number of men. When the army was ranged in order of battle, the first cohort took up the right of the first line, the rest followed in their natural order, so that the third was in the center of the first line of the legion, and the fifth on the left, the second between the first and third, and the fourth between the third and fifth: the five remaining cohorts formed a second line, in their natural order.

COIF, the badge of a serjeant at law, who is called serjeant of the coif, from the lawn-coif they wear under their caps when they are created serjeants.

The use of the coif was to cover the clerical tonsure. See the article **TONSURE**.

COIL, or **QUOIL**. See the article **QUOIL**.

COILING of the stud, the first choosing of a colt for any service.

COILON, *κολων*, in the antient grecian theatres, the same with the cavea of the Romans. See the article **CAVEA**.

COIMBRA, a large city of Portugal, in the province of Beira, situated on the river Mondego, about ninety-six miles north of Lisbon: west longitude 9°, and north latitude 40° 20'.

COIN denotes all manner of the several stamps and species of money in any nation. In earlier times, when the necessity of traffic put men upon the expedient of having money; and metals, on account of their firmness, cleanliness, and durability, were pitched upon to serve the end; each person cut his metal into pieces of different sizes and forms, according to the quantity to be given for any merchandize, or according to the demand of the seller, or the quantity stipulated between them. It was usual then to go to market laden with metal, in proportion to the purchase to be made; and furnished with instruments for proportioning it, and with scales for dealing it out, according as occasion required. By de-

which succeeded the names of the moneyers, and at length the effigies of the prince, the date, legend, and other precautions, to prevent the alteration of the species: thus were coins completed. We hope the reader will not be dissatisfied to find here tables of the most remarkable coins, both antient and modern. We shall begin with the antient.

| | | | |
|-----|----|----|----------------|
| l. | s. | d. | |
| 0 | 0 | 1 | $\frac{5}{16}$ |
| 0 | 1 | 1 | $\frac{1}{16}$ |
| 0 | 2 | 3 | $\frac{3}{38}$ |
| 5 | 14 | 0 | $\frac{3}{4}$ |
| 342 | 3 | 9 | |
| 0 | 12 | 0 | $\frac{1}{2}$ |
| 1 | 16 | 6 | |
| 475 | 0 | 0 | |

A talent of gold, worth

| l. | s. | d. | q. | |
|----|----|----|----|------------------|
| 0 | 0 | 0 | 0 | $\frac{7}{3}$ 76 |
| 0 | 0 | 0 | 0 | $\frac{3}{3}$ 38 |
| 0 | 0 | 0 | 1 | $\frac{7}{2}$ 74 |
| 0 | 0 | 0 | 2 | $\frac{1}{2}$ 14 |
| 0 | 0 | 1 | 1 | $\frac{1}{2}$ 11 |
| 0 | 0 | 2 | 2 | $\frac{1}{3}$ 13 |
| 0 | 0 | 5 | 0 | $\frac{2}{3}$ 23 |
| 0 | 0 | 7 | 3 | |
| 0 | 1 | 3 | 2 | |
| 0 | 2 | 7 | 0 | |
| 0 | 3 | 2 | 3 | |

Of these the denarius, victoriatuſ, feſtertius, and ſometimes the aſ, were of ſilver, the reſt of braſs. The roman gold coin was the aureus, which weighed generally double the denarius, the value of which, according to the firſt proportion of coinage mentioned by Pliny, was worth

| | | |
|----|----|-----------------|
| l. | s. | d. |
| 1 | 4 | 3 $\frac{1}{4}$ |

According to the proportion that obtains among us, worth

| | | |
|----|----|----|
| l. | s. | d. |
| 1 | 0 | 9 |

According to the decuple proportion, mentioned by Livy and Julius Pollux, worth

| | | |
|----|----|----|
| l. | s. | d. |
| 0 | 12 | 11 |

According to the proportion mentioned by Tacitus, and which afterwards obtained, whereby the aureus exchanged for 25 denarii, its value is

| | | |
|----|----|-----------------|
| l. | s. | d. |
| 0 | 16 | 1 $\frac{3}{4}$ |

It muſt be obſerved, that in all theſe tables of antient coins, ſilver is reckoned at five ſhillings, and gold at four pound the ounce.

$$1 \quad 4 \quad 3 \quad \frac{3}{4}$$

According to the proportion
that obtains among us, worth 1 0 9

According to the decuple proportion, mentioned by Livy and Julius Pollux, worth 12 1/2

According to the proportion mentioned by Tacitus, and which afterwards obtained, whereby the aureus exchanged for 25 denarii, its value is

It must be observed, that in all these tables of antient coins, silver is reckoned at five shillings, and gold at four pound the ounce.

Modern coins, current in the four quarters of the earth at this day, are either made of metals, or they are shells and fruits. The metals are gold, silver, copper, tin, and lead, to which may be added billon, a mixture of silver and copper in a certain proportion.

In Europe none are used beside gold, silver, copper, and billon: in some parts of the East-Indies they likewise use tin and lead: as to shells and fruits, they are the small money of several nations in Asia, Africa, and America.

British COINS. In England, the current species of gold are the guinea, half guinea, jacobus, laureat, angel, and rose-noble; the four last of which are now seldom met with, having been mostly converted into guineas, chiefly during the reigns of Charles II. and James II. The silver coins are the crown, half crown, shilling, and six-pence: there are likewise penny, two-penny, three-penny, and groat pieces in silver.

The copper coins are the halfpenny and farthing.

Value and proportion of the English COINS.

| | | | | | | | | | |
|----------|-----------|-----|----------|------------|-------|----------------|----------------------|--|--|
| Farthing | | | | | | | | | |
| 2 | Halfpenny | | | | | | | | |
| 4 | Penny | | | | | | | | |
| 48 | 24 | 12 | Shilling | | | | | | |
| 120 | 60 | 30 | 2½ | Half crown | | | | | |
| 240 | 120 | 60 | 5 | 2 | Crown | | | | |
| 960 | 480 | 240 | 20 | 8 | 4 | Pound, accompt | | | |
| 1008 | 504 | 252 | 21 | 8½ | 4½ | 1 | Guinea | | |
| | | | 2½ | 10 | 5 | 1½ | Jacobus | | |
| | | | 23 | 9½ | 4½ | | Carolus, or Laureat. | | |

In Scotland, by the articles of the union, it is appointed that all the coins be reduced to the english, and the same accounts be observed throughout the whole island. Till then, the Scots had their pounds, shillings, and pence as in England; but their pound was but twenty-pence english, and the others were in proportion; accordingly their mark was 13 s. 4 d. Scots, current in England at 13½ d. their noble in proportion.

Beside these they had their turnorer, pence, and halfpence; their penny 1½ of that of England: besides base money of achisons, babees, and placks; the bodle ½ of the penny; ¼ of the achison, ⅓ of the babee, and ½ of the plack.

In Ireland the coins are as in England, viz. guineas, shillings, &c. with this difference, that the english shilling passes for twenty-six halfpence, which are the only coin peculiar to that country.

French COINS. The only gold-coin now current in France is the Louis d'or, with its divisions, which are half and quarter, and its multiples, which are the double and quadruple louis: till the year 1700, they had gold-lys and ecus or crowns; but they are now no more. The silver-coins are the ecu and the grand ecu of six livres; pieces of twenty-four sols, of twelve sols, and of six sols. The billon-coins are of two kinds, each called sols, some of fifteen deniers, others of twenty-one: to these may be added the deniers current in the Lioinois, Provence, Dauphiny, and other parts. Lastly, the copper-coin is the liard, equal to three deniers, and is ordinarily called the double.

Value and proportion of the French COINS.

Denier, equal to ⅙ of a farthing sterling

| | | | | | | | | | |
|-----|--------|-------|------------------------------|----------------|-----|--|--|--|--|
| 2 | Double | | | | | | | | |
| 3 | 1½ | Liard | | | | | | | |
| 12 | 6 | 4 | Sol Paris is equal nearly to | | | | | | |
| 240 | 120 | 80 | 20 | Livre, accompt | | | | | |
| 720 | 360 | 240 | 60 | 3 | Ecu | | | | |

The old Louis d'or is valued at

The new Louis d'or at

| l. s. d. | | |
|----------|----|------|
| 0 | 0 | 0 ½ |
| 0 | 0 | 10 ½ |
| 0 | 2 | 7 ½ |
| 0 | 16 | 9.3 |
| 1 | 0 | 0.6 |

Spanish COINS. In Spain, and the states depending upon it, the gold-coin is the pistole; above which is the double pistole and piece of four pistoles, and under it the half pistole; to which must be added the castilians of gold. The silver-money

are the piastre, or piece of eight rials, and its diminutions; as also the simple rial, with its diminutions. The copper-coins are the ochavos, or octaves, which are of two kinds, the one equal to four maravedis, and ordinarily called quarta; the

the other double this, and called double quarta: and lastly, the maravedis. It must be observed, that in Spain they have new money and old; the old current in Sevil, Cadiz, Andalusia, &c. is worth 25 per cent. more than the new current at Madrid, Bilbao, St. Sebastian, &c. This difference is owing to their king Charles II. who, to prevent the exportation of money, raised it 25 per cent. which, however, he was able to effect only in part, several provinces still retaining the antient rate.

Value and proportion of the Spanish COINS.

Quarta, 4 maravedis

Octavo, or double quarta, 8 maravedis

l. s. d.

Real old Plata, equal to 0 0 6 $\frac{3}{4}$

Piece of eight, or piastre 0 4 6

Pistole 0 16 9.3

Portuguese COINS. Those of gold are the millera-y or St. Stephen, and the moeda d'oro, or, as we call it, moidore, which is properly their pistole; above this are doppio moedas or double pistoles, and quadruple species equal to five pistoles. The silver coins are the cruzada, pataca or piece of eight, and the vintem, of which they have two sorts, the one silver and the other billon. The ree is of copper, which serves them in accounts as the maravedis does the Spaniards.

Res, ree, or rez. equal to three-fifths of a farthing sterling.

Vintem, 20 res.

Cruzada, 26 vintems.

l. s. d.

Mi-moeda, or half pistole 0 13 6

Moeda d'oro, or pistole 1 7 0

Doppio moeda, or double pistole 2 14 0

Ducat of fine gold 6 15 0

Besides the above, they have also pieces of gold of the value of 3 l. 12 s. 1 l. 16 s. and other subdivisions.

Dutch COINS. Those of silver are crowns or dollars, ducatoons, florins, and shillings, each of which has its diminution. The stiver is of billon; the duy and penny, of copper.

l. s. d.

Ducat of Holland 0 9 3.2

Ducatoon 0 5 5.59

Patagon, or rix dollar 0 4 4.28

The three-guilder piece, or sixty stivers 0 5 2.46

The guider-florin, or twenty stivers 0 1 3.08

The lion dollar 0 3 7.07

The schelling goes for six stivers, and the ortke is the fourth part of a stiver.

Flemish COINS. Those of gold are imperials, rides or philips, alberts, and crowns; those of silver are philips, rixdollars, patagons, schellings, and guildens; and those of copper, pataards.

Groat, 8 pataards.

l. s. d.

Single stiver 0 0 1.1

Schelling 0 0 7.1

Gulden 0 2 0

Rixdollar, dollar, patagon 0 4 6

Imperial 0 11 9

The german, dutch, and french coins are current here.

German COINS. Those of gold are ducats, which are of various kinds, oboli of the Rhine, and florins: of this last kind there are some likewise of silver, besides rixdollars and izelottes, which are all of that metal.

s. d.

Ducat of the bishop of Bamberg 9 3.2

Ducat of Hanover 9 2.7

Ducat of Brandenburg 9 3.2

Ducatoon of Cologne 5 5.02

Rixdollar or patagon of Cologne 4 4.53

Rixdollar or patagon of Liege 4 7.48

Rixdollar of Mentz 4 7.27

Rixdollar of Frankfort 4 6.53

Rixdollar of the Palatinate and

Nuremberg 4 7.55

Rixdollar of Lunenburg 4 6.65

Old rixdollar of Hanover 4 7.03

Old bank dollar of Hamburgh 4 6.92

Rixdollar of Lubec 4 7.54

Gulden of Hanover 2 4.14

Gulden of Zell. 2 3.07

Gulden of Brandenburg 2 3.81

Gulden of Saxony 2 4.12

Italian COINS. The several states of Italy have several current monies, though there are some common to all, such as the pistole of gold, and the ducatoon and florin of silver, which are of various weights, fineness, &c. The coins peculiar to Rome are the julos of silver, the pignatelle of billon, and the baiocco, demibaiocco, and quadrine of copper. Venice has its sequins of gold; its justins, or ducatoons, and derlingues of silver. Naples its carlins, Genoa its croisats, Savoy and Piedmont its lys; all silver: this last state has also papiroles and cavales of billon.

Gold coins of Italy.

s. d.

The sequin of Venice 9 5.7

The old italian pistole 16 7.6

Pistole of Rome, Milan, Venice, Florence, Savoy,

Genoa 16 6.7

Double

s. d.

Double ducat of Genoa, Venice, and Florence 18 $\frac{1}{2}$.7

Single ducat of the same places 9 3 .8

Silver Coins.

The old ducat of Venice 3 4 .50

The ducat of Naples 3 4 .43

The ducat of Florence or Leghorn 5 4 .62

The tarin, or fifth part of the ducat of Naples 0 8 .09

The carlin, or tenth part 0 4 .04

The escudi, or crown, of Rome, or piece of ten julios, or one hundred baioccos 5 7

The teston of Rome, or piece of three julios 1 6 .32

The julio of Rome 0 6 .10

The croizat of Genoa 6 6 .74

Justine of Venice 4 9

Derlingue, $\frac{1}{4}$ of the justine 1 2 $\frac{1}{4}$

Swiss COINS are ratzes and blazes of billon; the ratze equal to $\frac{2}{3}$ of a penny sterling: and the blaze of Berne, nearly equal to the ratze.

The german, french, and italian coins are current here.

Polish COINS s. d.

The gold ducat 9 2 .1

The old silver dollar of Dantzic 4 6 .27

The old rixdollar of Thorn 4 5 .85

The rixdollar of Sigismund III. and Uladislaus IV. kings of Poland 4 6 .4

Abra 1 0 $\frac{1}{2}$

Roup 0 4 $\frac{1}{2}$

Groch 0 0 $\frac{5}{6}$

Danish COINS are, s. d.

The gold ducat 9 3 .2

The horse 1 1 $\frac{1}{2}$

The four-mark piece 2 8 .23

Marc lubs 1 6

Scheldal, or two marks 3 0

Rix mark 0 11

Slet mark 0 9

Swedish COINS. Those of copper are the roustique, alleuvre, mark, and money.

s. d.

A gold ducat is equal to 9 3 .2

An eight-mark piece of silver 5 2

A four mark piece 2 7

A christine 1 1 $\frac{1}{2}$

Caroline 1 5 $\frac{1}{4}$

The swedish money, properly so called, is a kind of copper, cut in little square pieces, or plates, about the thickness of

three english crowns, and weighing five pounds and a half, stamped at the four corners with the swedish arms, and current in Sweden for a rixdollar, or piece of eight.

Muscovite COINS. The proper coins of Muscovy are,

s. d.

The copec of gold, worth 1 6 $\frac{1}{11}$

Copec of silver, or denaig 0 1

Polusk 0 0 $\frac{1}{2}$

Motofske 0 0 $\frac{1}{4}$

The ruble of silver, valued at 4 6

The cheroonitz of gold, called ducat by foreigners 9 6

Turkish COINS. The gold-coins are zingerlees, worth two dollars two thirds; and tomilees, worth two dollars and a half, reckoning each dollar at 108 aspers: the sultani, xeriff, and chequeens, each worth about 9 s. 4 d. 5 d. or 6 d. sterling.

The silver ones are the asper, worth a trifle more than a farthing sterling; and the para, or medin, worth three aspers.

Coins of the coast of Barbary. Though the general currency in these parts are spanish dollars, french crowns, hungarian ducats, and the turkish golden sultanins, there are some coins struck by the kings or deys in their different territories.

At Morocco, the metacals are a sort of gold ducats, made by the Jews at their pleasure, so that their standard is very uncertain.

The blanquille of silver, worth 2 $\frac{1}{4}$ d. the flours of copper, eight of which go to a blanquille.

At Algiers the gold-coins are sultanins and aspers; burbas, of which six go to an asper. The doubla is silver, and worth about 4 s. 6 d. The rubie, median, and zian are of gold, the first equal to 35 aspers, or 1 s. 9 d. and the last 100 aspers.

At Tunis they have sultanins of gold, but heavier by one third than those of Constantinople: the nasura of silver, cut nearly square; and doublas and burbas of the same value with those of Algiers.

Persian COINS are either of silver or copper: of the first kind are the

s. d.

Abassi, equal to 1 4 $\frac{1}{2}$

Mamoudi 0 8 $\frac{1}{4}$

Shakee 0 4 $\frac{1}{8}$

Copper coins are the casbequi, or casbequi, equal to $\frac{5}{12}$ of a penny sterling.

The telac, or cherais, is of gold, but it has no currency among the merchants, being only a medal struck by every king of Persia upon his accession to the crown.

Chinese

Chinese COINS. Throughout the kingdom of China and Tonquin there are not properly any coins struck; instead of these they cut their gold and silver into little pieces of different weights: those of gold are called goltſchuts; those of silver the natives call leam, the Portuguese taels. Beside these they have a small money of lead mixed with the scum of copper, having holes in the middle to string them on for the ease of numbering; this species is called caxa, cas, and pitis; and the string which usually holds 200, is called fanta. There are two sorts of goltſchuts, the one of $32 \frac{1}{2}$ ounces, and the other but half as much. The tael, or leam, is equal to 6 s. 8 d. sterling. Caxa, cas, or pitis, one third of a farthing; 300,000 of them are only worth about 56 guilders and 5 stivers of Holland.

COINS of Japan. The Japonese strike coupants both of gold and silver; and copper pieces with holes in the middle, like those of China, six hundred of which make the tael. The other monies, which they cut, like the Chinese, of different weights, are chiefly three, the largest of the weight of six reals, viz. 48 taels, the tael equivalent to 75 dutch stivers; the second equal to $6 \frac{1}{2}$ taels, and the third to $1 \frac{1}{2}$ tael.

Coupant of gold, weighing one ounce six drachms, its figure a long oval, the longest diameter about four inches, and the shortest half an inch, 6 l. 12 s. 6 d.

Other coupants of gold, near one third of the former, amounting to about 2 l. 4 s. 2 d. Coupant of silver current at 4 s. 6 d. Copper money seven twelfths of a farthing.

COINS of Siam. In the dominions of Siam are struck gold pieces five or six grains heavier than the half pistole of Spain: but these are rather pieces of curiosity, than of use in commerce. Their silver coin is the tical or baat, the diminutions of which are the mayon or seling, $\frac{1}{4}$ of the tical; the fouang, $\frac{1}{2}$ of the mayon; the page, $\frac{1}{4}$ of the fouang; and clam, $\frac{1}{2}$ of the page: here are also sompays, in value $\frac{1}{2}$ a fouang. The tical weighs 3 gros and 23 grains, which, reckoning the ounce of silver $3 \frac{1}{2}$ livres tournois, is 32 sols and 4 deniers that money, as it weighs near half an ounce.

COINS of the coasts and islands of the Indies. The principal, and those most generally current, are pagodos, rupees, larins, fanos, or fanoms, and coupans, each of which are struck both of gold and silver.

Besides these, there are also particular coins, as at Goa, St. Thomas's of gold; at Surat, Agra, and the rest of Indostan, the pecha, or peſſa, and doudous, all of copper; the bazarucos and chedas, of tin.

Pagodo, gold, is common on all the coasts of Coromandel; and almost the only one in use in the trade carried on there. The English make them at Fort St. George, and the Dutch at Nagapatnam, of the same standard and weight with those of the country. The value, 5 s.

The value of the silver pagodo is very different: the smallest are worth eight tangas, reckoning the tanga at 90 or 100 bazarucos, 8 s.

Gold rupee worth 1 l. 11 s. 6 d.

Silver rupee varies in fineness and value.

There are three kinds current, viz. rupee sicca, worth at Bengal 2 s. 11 d.

Rupee of Madraſs, 2 s. 5 d. $\frac{1}{2}$ d.

Rupee of Surat, 2 s. 3 d.

This is to be understood of the new rupees; for as to the old ones of each kind, their value is less; those of Madraſs are but equal to 1 s. 11 d. those of Surat 2 s. and the siccas 2 s. 4 d.

Larin, in form of a cylinder, bent in two, and flattened at each end, worth 9 d.

Fanoms of gold are of different fineness, weight and value. The heaviest are not worth above 5 d. to $5 \frac{1}{2}$ d. and the lightest little more than 5 farthings.

The silver fanoms are not worth at most above 2 d.

St. Thomas equal to 9 s.

Pecha or peſſa of copper worth about $\frac{1}{2}$ d. Doudou, somewhat less than $\frac{1}{2}$ d.

Bazaruco, $\frac{1}{3}$ of a farthing.

Cheda of pewter is of two kinds, the one octagonal, current at $1 \frac{1}{3}$ d.

The other round, at $\frac{1}{2}$ d.

In the dominions of the great mogul are roupees, mamoudas, and pechas; the first, both of gold and silver; the second, of silver alone; and the third of copper. There are others struck by the princes tributary to him, particularly a silver piece of the king of Matoucha, worth $\frac{1}{2}$ d. a silver piece of the king of Ogden, worth 6 d. a gold piece of the king of Achem, worth 1 l. 3 s. a gold piece of the king of Macasser, taken by the Dutch for a guilder.

Shells current for COINS are, 1. Cowries, brought from the Maldives. and pass for $\frac{1}{12}$ of a penny sterling. The natives of the

the coasts of Africa call them bouges.

2. Porcelaine, in America, a shell nearly on the same footing with the cowrie.

3. Zimbi, current particularly in the kingdoms of Angola and Congo.

Fruits current for COINS, are, 1. Cacao, among the Americans, fifteen of which are esteemed equivalent to a Spanish rial. 2. Maiz, which has ceased to be current since the discovery of America by the Europeans. 3. Almonds, used in the East-Indies where cowries are not current. The value of these is higher or lower, according as the year is more or less favourable to this fruit; in a common year, an almond is worth about $\frac{1}{20}$ of a farthing.

COIN, in architecture, a kind of dye cut diagonal-wise, after the manner of a slight of a stair case, serving at bottom to support columns in a level, and at top, to correct the inclination of an entablature supporting a vault.

COIN is also used for a solid angle composed of two surfaces inclined towards each other, whether that angle be exterior, as the coin of a wall, a tree, &c. or interior, as the coin of a chamber or chimney. See the article **QUOIN**.

COINAGE, or **COINING**, the art of making money, as performed either by the hammer or mill.

Formerly the fabric of coins was different from what it is at present. They cut a large plate of metal into several little squares, the corners of which were cut off with sheers. After having shaped these pieces, so as to render them perfectly conformable, in point of weight, to the standard piece, they took each piece in hand again, to make it exactly round, by a gentle hammering. This was called a planchet, and was fit for immediate coining. Then engravers prepared, as they still do, a couple of steel masses in form of dyes, cut and terminated by a flat surface, rounded off at the edges. They engraved or stamped on it the hollow of a head, a cross, a scutcheon, or any other figure, according to the custom of the times, with a short legend. As one of these dyes was to remain dormant, and the other moveable, the former ended in a square prism, that it might be introduced into the square hole of the block, which, being fixed very fast, kept the dye as steady as any vice could have done. The planchet of metal was horizontally laid upon this inferior mass, to receive the stamp

of it on one side, and that of the upper dye, wherewith it was covered, on the other. This moveable dye, having its round engraved surface resting upon the planchet, had at its opposite extremity a flat square, and larger surface, upon which they gave several heavy blows, with a hammer of an enormous size, till the double stamp was sufficiently, in relief, impressed on each side of the planchet. This being finished, was immediately succeeded by another, and they thus became a standard coin, which had the degree of fineness, the weight and mark, determined by the judgment of the inspectors, to make it good current money. The strong tempering which was and is still given to the two dyes, rendered them capable of bearing those repeated blows. Coining has been considerably improved and rendered expeditious, by several ingenious machines, and by a wise application of the surest physical experiments to the methods of fining, dying, and stamping the different metals.

The three finest instruments the mintman uses, are the laminating engine, the machine making the impressions on the edges of coins, and the mill.

After they have taken the laminæ, or plates of metal, out of the mould into which they are cast, they do not beat them on the anvil, as was formerly done, but they make them pass and repass between the several rollers of the laminating engine, which being gradually brought closer and closer to each other presently give the laminæ uniform and exact thickness. Instead of dividing the lamina into small squares, they at once cut clean out of it as many planchets, as it can contain, by means of a sharp steel trepan, of a roundish figure, hollow within, and of a proportionable diameter, to shape and cut off the piece at one and the same time. After these planchets have been compared and weighed with standard pieces, filed or scraped to get off the superfluous part of the metal, and then boiled and made clean, they arrive, at last, at the machine, (plate XLIV. fig. 4. n^o. 1.) which marks them upon the edge; and finally, the mill, (*ibid*. n^o. 2.) which, squeezing each of them singly between the two dyes, brought near each other with one blow, forces the two surfaces or fields of the piece to fill exactly all the vacancies of the two figures engraved hollow. The engine which serves to laminate lead, gives a sufficient notion

Fig. 1. CNICUS.



Fig. 2. COCHLEÆ.

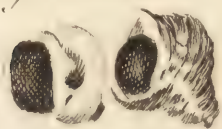


Fig. 3. COEUR.



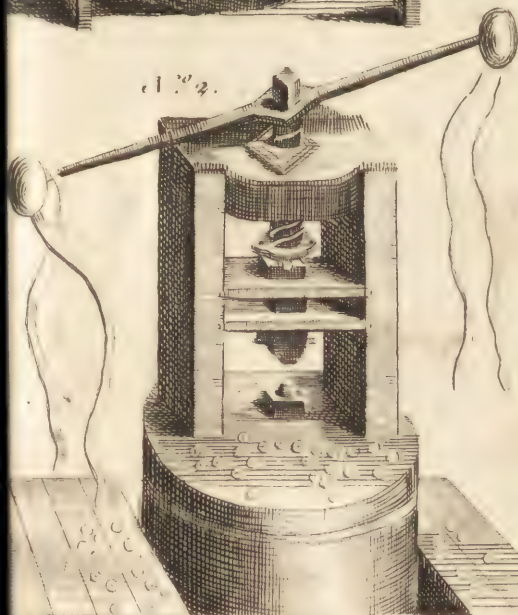
Fig. 4.
COINING
1^{re}.



Fig. 5.
COLYMBUS.



1^{re} 2.



1^{re} 3.





notion of that which serves to flatten gold and silver laminæ between rollers of a lesser size.

The principal pieces of the machine (N^o 1.) to stamp coins on the edge; are two steel laminæ, about a line thick. One half of the legend, or of the ring, is engraved on the thickness of one of the laminæ, and the other half on the thickness of the other; and these two laminæ are straight, although the planchet marked with them be circular.

When they stamp a planchet, they first put it between the laminæ in such a manner, as that these being each of them laid flat upon a copper plate, which is fastened upon a very thick wooden table, and the planchet being likewise laid flat upon the same plate, the edge of the planchet may touch the two laminæ on each side, and in their thick part.

One of these laminæ is immovable, and fastened with several screws; the other slides by means of a dented wheel, which takes into the teeth that are on the surface of the laminæ. This sliding lamina makes the planchet turn in such a manner, that it remains stamped on the edge, when it has made one turn. Only crown and half-crown pieces can bear the impression of letters on the thickness of their edges.

The coining engine or mill is so handy (*ibid.* n^o. 2.) that a single man may stamp twenty thousand planchets in one day: gold, silver, and copper planchets, are all of them coined with a mill; to which the coining squares (*ibid.* n^o. 3.) commonly called dyes, are fastened; that of the face under, in a square box garnished with male and female screws, to fix and keep it steady; and the other above, in a little box furnished with the same screws, to fasten the coining square. The planchet is laid flat on the square of the effigy, which is dormant; and they immediately pull the bar of the mill by its cords, which causes the screw set within it to turn. This enters into the female screw, which is in the body of the mill; and turns with so much strength, that by pushing the upper square upon that of the effigy, the planchet, violently passed between both squares, receives the impression of both at one pull, and in the twinkling of an eye.

The planchet thus stamped and coined, goes through a final examination of the mint-wardens, from whose hands it goes into the world.

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In the COINING of medals, the process is the same; in effect, with that of money; the principal difference consisting in this, that money having but a small relief, receives its impression at a single stroke of the engine; whereas for medals, the height of their relief makes it necessary that the stroke be repeated several times: to this end, the piece is taken out from between the dyes, heated, and returned again; which process in medallions and large medals, is repeated fifteen or twenty times before the full impression be given: care must be taken that every time the planchet is removed, to take off the superfluous metal; stretched beyond the circumference, with a file. Medallions, and medals of a high relief, are usually first cast in sand, by reason of the difficulty of stamping them in the press, where they are put only to perfect them; in regard the sand does not leave them clear, smooth, and accurate enough. Therefore we may see that medals receive their form and impression by degrees, whereas money receives them all at once.

British COINAGE, both by the beauty of the engraving, and by the invention of the impressions on the edges, that admirable expedient for preventing the alteration of the species, is carried to the utmost perfection.

It was only in the reign of king William III. that the hammer-money ceased to be current in England, where till then it was struck in that manner, as in other nations. Before the hammer species was called in, the english money was in a wretched condition, having been filed and clipped by natives as well as foreigners, insomuch, that it was scarce left of half the value: the retrieving this distressed state of the english money, is looked upon as one of the glories of king William's reign.

The british coinage is now wholly performed in the Tower of London, where there is a corporation for it, under the title of the mint. Formerly there were here, as there are still in other countries, the rights of seignorage and brassage; but since the eighteenth year of king Charles the second, there is nothing taken either for the king, or for the expences of coining; so that weight is returned for weight, to any person who carries their gold and silver to the Tower.

The species coined in Great Britain, are esteemed contraband goods, and not to

A P

be

be exported. All foreign species are allowed to be sent out of the realm, as well as gold and silver in bars, ingots, dust, &c.

There is a duty of ten shillings *per ton* on wine, beer, and brandy imported, called the coinage-duty, granted for the expence of the king's coinage.

Barbary COINAGE, particularly that of Fez and Tunis, is under no proper regulations, as every goldsmith, jew, or even private person, undertakes it at pleasure; which practice renders their money exceeding bad, and their commerce very unsafe.

Muscovite COINAGE. In Muscovy there is no other coin struck but silver, and that only in the cities of Muscow, Novogrod, Twere, Pleskow, and Petersburg. The coinage of each of these cities is let out to farm, and makes part of the royal revenue.

Persian COINAGE. All the money made in Persia, is struck with a hammer, as is that of the rest of Asia; and the same may be understood of America, and the coasts of Africa, and even Muscovy: the king's duty, in Persia, is seven and a half *per cent.* for all the monies coined, which are lately reduced to silver and copper, there being no gold-coin there, except a kind of medals, at the accession of a new sopher.

Spanish COINAGE is esteemed one of the least perfect in Europe. It is settled at Seville and Segovia, the only cities where gold and silver are struck; and yet there is scarcely any state in the world where so much money is coined, as in that of the king of Spain.

The invention of the mill is not yet gone out of Europe; nor even established in every part of it: nor was the invention known till the year 1553, when the coining mill was first invented by an engraver, one Antoine Brucher, and was first tried in the french king's palace at Paris, for the coining of counters: some attribute the invention of the mill to Varin, a noted engraver, who, in reality, was no more than an improver of it; and others ascribe it to Aubry Olivier, who had the inspection of it.

This machine has met with various fates since its first invention, being one time used, and at another time laid aside, and the hammer resumed: but it has now got such a footing and reputation, both for its expedition, and the beauty of its impression on the species struck with it,

that there appears no great probability of its ever being again disused.

COINING, in the tin-works, is the weighing and stamping the blocks of tin with a lion rampant, performed by the king's officer; the duty for every hundred weight being four shillings.

CO-INDICATIONS, among physicians, denote signs, which, together with others, serve to indicate or point out the nature of a disease.

COIRE, or **CHUR**, the capital of the country of the Grisons, in Switzerland, situated on the river Rhine, fifty-three miles south of Constance: east longitude $9^{\circ} 25'$, north latitude $46^{\circ} 40'$.

COITION, the intercourse between the male and the female in the act of generation. See the article **GENERATION**.

Frogs, it is observed, are forty days in the act of coition.

It is also related by Bartholine, that butterflies make 130 vibrations with their wings in one act of coition.

COITION is also sometimes used for the mutual attraction or tendency towards each other, which is found between iron and the magnet.

COIX, **JOB'S TEARS**, in botany, a genus of the monoecia triandria class of plants; the corolla consists of two valves: the valves are ovato-lanceolated, very slender, and of the length of the cup. In the male flowers, the calyx is a glume containing two flowers, and has no awns: in the female, the calyx is the same, and the corolla a glume without any aristæ. There is no pericarpium: the seed, which is solitary and roundish, is covered by the indurated calyx.

COKENHAUSEN, a fortress of Livonia, situated on the river Dwina, about thirty-two miles east of Riga: east longitude 25° , north latitude 57° .

COLARBASIANS, in church-history, christian heretics, in the second century, who maintained the whole plenitude and perfection of truth and religion to be contained in the greek alphabet, and that it was upon this account that Jesus Christ was called the alpha and omega: they rejected the Old Testament, and received only a part of St. Luke's gospel, and ten of St. Paul's epistles, in the new.

COLARIN, in architecture, the little frieze of the capital of the tuscan and doric column, placed between the astragal and the annulets; called also hypotrachelium, and sometimes cincture.

COLARIN is also used for the orlo or ring

on the top of the shaft of the column, next the capital.

COLATURE, the same with filtration. See the article **FILTRATION**.

COLCHESTER, a large borough-town of Essex, situated on the river Coln twenty miles north-east of Chelmsford, on the road to Harwich; east longitude 1° , north latitude $51^{\circ} 55'$.

It sends two members to parliament.

COLCHICUM, MEADOW-SAFFRON, in botany, a genus of the hexandria-trigynia class of plants, with a monopetalous flower, divided into six oblong and erect segments; the fruit is a trilocular capsule, formed of three lobes, and containing a considerable number of roundish and rugose seeds.

The roots of this plant, once esteemed poisonous, are recommended by some in pestilential and putrid cases, the small-pox, purple fevers, &c. But great caution ought to be used in administering it.

COLCOTHAR, in pharmacy, a preparation of vitriol calcined to a redness. However, what remains in the long neck, after the distillation of the spirit, is so much better calcined, than any body will be at the pains of doing on purpose; that it is usually preferred, and is the substance kept under this name in the shops.

Colcothar is also prepared from chalcitis, by calcining it to a deep purple colour: in which state it is very frequent in Turkey, where they prescribe it in hæmorrhages with good success; also as an astringent and styptic, to stop bleeding. See **VITRIOL** and **CHALCITIS**.

COLD, in general, denotes the privation or absence of heat; and, consequently, those who suppose heat to consist in a brisk agitation of the component particles of the hot body, define cold to be such a faint motion of these parts, as is either altogether or nearly imperceptible to our organs of feeling: in which sense, cold is a mere term of relation between the cold body and the organs of sensation; and, in fact, the same body will be felt either hot or cold, according as the sensible organ is colder or hotter than it.

Be this as it will, cold is found to have very considerable effects, and therefore should seem to be something positive. An intense degree of heat reduces most bodies, even gold and the hardest stones, the diamond excepted, to a fluid state. On the other hand, not only are these restored to their former solidity by cold, but greater degrees of it will congeal all

kinds of water, even that of the ocean, and the watery particles to be found in spirits. See the articles **FROST**, **CONDENSATION**, &c.

COLD, in medicine, is found to be productive of inflammatory disorders, as coughs, pleurisy, peripneumonies, rheumatic pains, consumptions, &c. See the articles **COUGH**, **PLEURISY**, **PERIPNEUMONY**, &c.

To remove a cold in the beginning, small and repeated bleedings are recommended; which likewise prove beneficial in coughs and the confirmed consumption, even after a purulent spitting, and hectic symptoms have appeared. The quantity, to be taken away at a time, may be from four to seven or eight ounces, once in eight or ten days; concerning which it is observable, that the patients do not find themselves so much relieved on the first as on the second or third night after bleeding.

What we commonly call catching cold, may be cured by lying much in bed; by drinking plentifully of warm sack-whey, with a few drops of spirit of hart's-horn, posset-drink, water-gruel, or any other warm small liquor. In short, it ought to be treated at first as a small fever, with gentle diaphoretics; and afterwards, if any cough or spitting should remain, by softening the breast with a little sugar-candy and oil of sweet almonds, or a solution of gum ammoniac in barley-water; taking care to go abroad well clothed.

This is a much more easy, natural, and effectual way than the common practice by balsams, liniments, pectorals, &c. which serve only to spoil the stomach, oppress the spirits, and hurt the constitution.

COLDENIA, in botany, a genus of the tetrandria-tetragynia class of plants, the flower of which consists of a single funnel-shaped petal: there is no pericarpium: the fruit is oval, compressed, rough, acuminate; and the seeds are four in number, convex and rough on one side, and angular and acuminate on the other.

COLDShIRE-IRON, that which is brittle when cold. See the article **IRON**.

COLE-FISH, the english name of a species of beardless gadus, with three back-fins, and the lower jaw longest. See **GADUS**.

COLEOPTERA, among zoologists, an order of insects, comprehending all those with four wings, the external pair of which are hard, rigid, and opaque, and form a kind of case for the interior pair:

add to this, that the mouth consists of two transverse jaws.

These animals are known, in english, by the general name of beetles; whereof authors have established a great many genera, from the different figures of their antennæ, or horns, and other general distinctions: such are the *scarabeus*, or beetle properly so called, the *dermestes*, *castida*, *coccinella*, *chrysomela*, *dytiscus*, *blatta*, *tenebrio*, and several other genera. See *SCARABÆUS*, *DERMESTES*, &c.

COLE-SEED, the seed of the *napus sativa*, or long-rooted, narrow-leaved rape, called, in english, navew, and comprehended by Linnæus among the brassica's, or cabbage-kind. See *BRASSICA*.

This plant is cultivated to great advantage in many parts of England, on account of the rape-oil expressed from its seeds. It requires a rich and strong soil, especially in marsh or fenny lands, those newly recovered from the sea, or indeed any other land that is rank and fat, whether arable or pasture. The best seeds are brought from Holland, and should be sown about Midsummer, the very day that the land is plowed; a gallon will serve an acre.

Besides the oil already mentioned, it is likewise cultivated for winter-food to cattle, and is a very good preparative of land for barley or wheat.

COLE-WORT, in gardening, a species of brassica. See *BRASSICA*.

COLIC, in medicine, a severe pain in the lower venter, so called, because the disorder was formerly supposed to be seated in the colon.

As the small and great intestines differ with respect to their contexture, capacity, function and situation, so the pains which affect them are no less distinguished by the places where they are seated, their degree of violence, their danger, and other acceding disorders. It is observed, that pains in the small intestines, are far more severe and acute than in the great ones. This is abundantly evident, from the effects of strong cathartics, and potions of a ruffic quality, in exciting most severe griping and racking pains, above and below the navel, as well as in the middle of the belly.

Most physicians take the whole regions of the intestines for the seat and subject of this pain; yet so, as that when one part of it is affected in an extraordinary manner, the whole intestinal tube, from the fauces to the anus, suffers by consent; or the preternatural motions, and even

the inversions and injuries of the peristaltic motion, are communicated to all the rest in such a manner, that, if the cause of the disease be very considerable, the whole nervous system is at the same time affected to an extraordinary degree.

There are different causes of these severe pains of the intestines, and according to the nature, disposition, and force of these causes, are the symptoms diversified, and the danger more or less to be apprehended. A very frequent cause is a retention and induration of the faeces in the large intestines, and sometimes in the small ones, proceeding, in a great measure, from a load of acido-viscid crudities, dry, juiceless, and astringent food, immoderate sleep, and a way of life unused to exercise and motion. In this obstructed and costive state of the belly, whenever it happens, that, upon the use of sweet aliments, and such as are subject to ferment, of fat flesh meat, especially mutton, with drinking of cool liquors, and refrigeration of the feet and belly, the inflation of the abdomen is increased, and the pain exasperated: hence, we may discern the nature and marks of the flatulent colic, which the antients ascribed to a cold cause, and whose generation and frequent attacks suppose an imbecillity of the intestines, and a want of due tone and strength in those parts; whence this sort of colic is very incident to fat and phlegmatic, as well as old and infirm, persons, especially if they take not due care to keep the cold from their feet, back and belly.

Another kind of colic is the bilious, which, according to the antients, owes its original to a hot cause, and arises from a bilious, acrid, corrupted humour, collected in too great plenty, and stagnating in the small intestines, particularly the duodenum. It frequently succeeds a great fit of anger, especially in persons of a hot and dry constitution, in a hot season; or it proceeds from an excessive use of hot and spirituous liquors, and by cooling potions, which obstruct perspiration, is exasperated, and rages with greater violence. The remarkable symptoms which attend it, are a hoarseness of the voice, the heart-burn, a continual loathing of food, a vomiting of porraceous bilious matter, the hiccup, a hot and feverish distemperature, restlessness, &c.

As to the method of cure, it appears from what has been said, that the causes of this affection are surprisingly various; and

and it may be inferred, that the manner of treatment ought to be varied in a way suitable to the difference of the causes, whence the pain of the intestines proceeds.

When from a suppression of the customary flux of the hæmorrhoids, or menses, especially in bodies abounding with blood, there arises a violent pain of the abdomen, attended with much heat, &c. a vein should be opened in the foot, then emollient clysters, antispasmodic powders, with a small portion of nitre, cinnabar, and castor should be used, and the feet bathed; and, under a remission of the fit, care should be taken to restore the menses in women, and the hæmorrhoids in men, to their natural courses. When the pain of the intestines proceeds from a redundancy of intemperate and caustic bile, the same remedies are of service.

But what exceeds these and all other remedies in this case, is a nitrous powder, mixed with a drop or two of the true distilled oil of miliefolium, to be taken in three or four ounces of the water of common chamomile flowers.

If the pain be tense, and fixed in the right or left hypochondrium, or beneath the stomach, it is a sure sign that the disorder proceeds from flatulencies, or excrements inclosed within the flexures of the colon. In this case, the principal indication directs us to the use of clysters of an emollient, discutient, and corroborating quality, not omitting external applications of carminative and emollient liniments to the affected part.

When the rectum and part of the colon are affected with a strong convulsive stricture, so as to be incapable of transmitting either stæcus or fæces, and a clyster cannot conveniently be introduced, the abdomen is to be fomented, all over, with hot and rich oils, by coction, particularly those of chamomile, dill, or rue, boiled with the fats of a badger, dog, fox, beaver, &c. which may be introduced, if possible, into the belly by clysters.

A flatulent colic, proceeding from imbecillity, and want of a due tone of the stomach and intestines, admits of the use of carminative things somewhat hotter than ordinary. Among these are spirituous carminative waters, prepared of the seeds of cumin and caraway, orange-peel, and the flowers of common roman chamomile and cardamums, distilled in wine.

COLIPHUUM, in antiquity, bread mixed with new cheese and roasted flesh, a com-

position which Pythagoras recommended to the use of wrestlers, in order to make them strong and firm fleshed, whereas formerly they used figs.

COLIR, an officer in China, who may properly be called an inspector, having an eye over what passes in every court or tribunal of the empire; and though he is not of the number himself, yet he assists at all assemblies, the proceedings whereof are communicated to him.

In order to render him impartial, he is kept independent, by having the post for life. The power of the colirs is such, that they make even the princes of the blood tremble.

COLISEUM, or **COLISÆUM**, in antient architecture, an oval amphitheatre at Rome, built by Vespasian, wherein were statues set up, representing all the provinces of the empire: in the middle whereof stood that of Rome, holding a golden apple in her hand.

This structure was so large, that it would hold near 100,000 spectators.

When Titus dedicated it, he sacrificed above 4000 beasts of different kinds.

COLLAR, *collare*, in roman antiquity, a sort of chain put generally round the neck of slaves that had ran away, after they were taken, with an inscription round it, intimating their being deserters, and requiring their being restored to their proper owners, &c.

COLLAR, in a more modern sense, an ornament consisting of a chain of gold, enamelled, frequently set with cyphers or other devices, with the badge of the order hanging at the bottom, wore by the knights of several military orders over their shoulders, on the mantle, and its figure drawn round their armories.

Thus, the collar of the order of the garter, consists of S S, with roses enamelled red, with a garter enamelled blue, and the George at the bottom.

Knights of the COLLAR a military order in the republic of Venice, called also the order of St. Mark, or the medal.

It is the doge and the senate that confer this order; the knights bear no particular habit, only the collar, which the doge puts around their neck, with a medal, wherein is represented the winged lion of the republic.

COLLAR of a ship, a rope fastened about her beak head, into which the dead man's eye is seized, that holds her main stay.

Also the rope which is wound about the main-

main-mast head, to save the shrouds from galling, is also called a collar.

COLLAR-BEAM, in architecture, a beam framed cross betwixt two principal rafters.

COLLAR of a plough, an iron ring fixed on the middle of the beam, wherein are inserted the tow and bridle chains. See the article **PLOUGH**.

COLLAR of a draught horse, a part of harness made of leather and canvas, and stuffed with straw or wool, to be put about the horse's neck.

COLLATERAL, in geography, any thing, place, country, &c. situated by the side of another.

COLLATERAL POINT, in cosmography, the intermediate points; or those between the cardinal points.

The collateral points are either primary, which are those removed by an equal angle on each side from two cardinal points; or secondary, which, again, are either those of the first or second order. The first are those that are equally distant from a cardinal point, and first primary; The latter equally distant from some cardinal and primary, and first secondary.

COLLATERAL WINDS, are those blowing from collateral points. See **WIND**.

COLLATERAL, in genealogy, those relations which proceed from the same stock, but not in the same line of ascendants or descendants, but being, as it were, aside of each other.

Thus uncles, aunts, nephews, nieces and cousins, are collaterals, or in the same collateral line: those in a higher degree, and nearer the common root, represent a kind of paternity with regard to those more remote.

COLLATERAL, in a legal sense, is taken for any thing that hangeth by the side of another, whereto it relates; as a collateral assurance is that instrument which is made over and above the deed itself, for the performance of covenants, between man and man; thus called as being external, and without the nature and essence of the covenant.

COLLATION, in the canon law, the giving or bestowing of a benefice on a clergyman by a bishop, who has it in his own gift, or patronage.

This differs from presentation, in that the latter is properly the act of a patron, offering the clerk to the bishop, to be instituted into a benefice, whereas the former is the act of the bishop himself. The

collator can never confer a benefice on himself.

Antiently, the right of presentation to all churches was in the bishop; and now, if the patron neglects to present to the church, his right returns to the bishop by collation. If the bishop neglects to exercise his right of collation in six months, the archbishop may confer. If he neglects it for other six months, it falls to the crown.

In the romish church, the pope is the collator of all benefices, even elective ones, by prevention; setting aside consistorial benefices, and those in the nomination of lay-patrons. In France the king is collator of all the benefices, whereof he is patron, except consistorial ones, to which he has only the nomination; and the pope, by virtue of the concordat, is obliged to confer on whomsoever the king nominates.

COLLATION is also used in the romish church, for the meal or repast made on a fast day.

COLLATION is also vulgarly used for a repast between dinner and supper.

COLLATION, in common law, the comparison or presentation of a copy to its original, to see whether or not it be conformable; or the report or act of the officer who made the comparison. A collated act is equivalent to its original, provided all the parties concerned were present at the collation.

COLLATIONE facta uni post mortem alterius, a writ to the justices of the common-pleas, commanding them to issue their writ to the bishop, for the admitting of a clerk in the place of another presented by the king; such other clerk, during the suit between the king and the bishop's clerk, being dead.

COLLATIVE BENEFICES, are those which are in the gift of the ordinaries, and within their own jurisdiction, in which case there need no presentation, but the ordinary collates and institutes the clerk, and sends him to the archdeacon, or other person, whose office it is to induct him.

COLLEAGUE, a partner or associate in the same office or magistrature. See the article **ADJUNCT**.

COLLECT, or **COLLECTION**, a voluntary gathering of money, or a tax raised by a prince for any pious design, or charitable purpose.

COLLECTS, in an ecclesiastical sense, the short

short prayers into which the public devotions of the church are divided.

In the primitive church, the collects were repeated by the bishop alone, after the joint prayers of the deacon and congregation: they were called by the Greeks *ἐπικλησεις*, because they were a direct invocation of God by way of benediction, and not an exhortation to pray, which was the office of the deacon. That most of the collects of the liturgy of the church of England are very antient, appears from their conformity to the epistles and gospels, which are thought to have been selected by St. Jerom; for which reason, many believe that the collects were likewise first framed by that father. In the year 492, Gelasius, bishop of Rome, ranged the collects, which were then used, into order, and added some new ones of his own; which office was again corrected by pope Gregory the great, whose sacramentary contains most of the collects we now use: but our reformers examined the collects, corrected them, and restored several old ones, formerly left out.

COLLECTION, in logic, a term used by some for what is generally called syllogism. See the article **SYLLOGISM**.

COLLECTIVE, among grammarians, a term applied to a noun expressing a multitude, though itself be only singular; as an army, company, troop, &c. called collective nouns.

COLLECTOR, in general, denotes a person who gets or brings together things formerly dispersed and separated. Hence,

COLLECTOR, in matters of civil polity, is a person appointed by the commissioners of any duty, the inhabitants of a parish, &c. to raise or gather any kind of tax.

COLLECTOR, among botanists, one who gets together as many species of any kind of plant as he can, without studying botany in a scientific manner.

COLLEGATARY, in the civil law, a person who has a legacy left him in common with one or more other persons.

If the thing be bequeathed in *solido*, the portion of the deceased collegatory accrues to the rest.

COLLEGE, *collegium*, an assemblage of several bodies or societies, or of several persons into one society.

College, among the Romans, served indifferently for those employed in the offices of religion, of government, the liberal and even mechanical arts and trades; so that, with them, the word sig-

nified what we call a corporation or company.

Each of these colleges had distinct meeting-places or halls; and likewise, in imitation of the state, a treasury and common chest, a register, and one to represent them upon public occasions, and acts of government. These colleges had the privilege of manumitting slaves, of being legates, and making by-laws for their own body, provided they did not clash with those of the government.

There are various colleges on foot among the moderns, founded on the model of those of the antients. Such are the three colleges of the empire, *viz.*

COLLEGE of electors, or their deputies, assembled in the diet of Ratisbon.

COLLEGE of princes, the body of princes, or their deputies, at the diet of Ratisbon.

COLLEGE of cities, is, in like manner, the body of deputies which the imperial cities send to the diet. See the articles **ELECTOR** and **DIET**.

COLLEGE of cardinals, or the *sacred COLLEGE*, a body composed of the three orders of cardinals. See **CARDINAL**.

COLLEGE is also used for a public place endowed with certain revenues, where the several parts of learning are taught. An assemblage of several of these colleges, constitutes an university. The erection of colleges, is part of the royal prerogative, and not to be done without the king's license.

The university of Oxford consists of nineteen colleges, and six halls; that of Cambridge, of twelve colleges, and four halls; and that of Paris, of fifty four colleges, though, in reality, there is but ten where there is any teaching.

There were several colleges among the Jews, consisting generally of the tribe of Levi. The prophet Samuel seems to have made the use of them more public, and brought them under several regulations: he is said to have founded the college of the prophets, &c.

As for the colleges of the christians, the apostles and seventy disciples, may not improperly be said to be the first: afterwards St. Mark, the evangelist, is said to have set up a public school for reading, instruction, and interpretation of scripture at Alexandria. This school produced a great many persons eminent for their learning, as Clemens, Origen, Dionysius, Athanasius, &c.

Among the Greeks, the Lyceum and Academy,

Academy, were celebrated colleges: the latter of which has given its name to our universities, which in Latin are called *academia*.

The Romans came late into the institution of such colleges: they had, however, several founded by their emperors, especially in Gaul, the chief of which were those of Marseilles, Lions, Besancon, and Bourdeaux.

Colleges of this kind have been generally in the hands of those devoted to religion. Thus the Magi in Persia, the Gymnosophists in the Indies, the Druids in Gaul and Britain, had the care of educating youth in the sciences. After christianity became established, there were almost as many colleges as monasteries; particularly in the reign of Charlemaigne, who, in his capitulars, enjoined the monks to instruct youth in music, grammar, and arithmetic: but this calling the monks from their solitude, and taking up too much of their time, the care of the college was at length put into the hands of such as had nothing else to do.

In the canon law, it is said, three persons make a college. The colleges in London are,

COLLEGE of civilians, commonly called *Doctors-commons*, founded by Dr. Harvey, dean of the arches, for the professors of the civil law residing in the city of London. The judges of the arches, admiralty, and prerogative court, with several other eminent civilians, commonly reside here.

To this college belong thirty-four proctors, who make themselves parties for their clients, manage their causes, give licenses for marriages, &c.

In the common hall of Doctors-commons are held several courts, under the jurisdiction of the civil law, particularly the high court of admiralty, the court of delegates, the arches court of Canterbury, and the prerogative court of Canterbury, whose terms for sitting are much like those at Westminster, every one of them holding several court days; most of them fixed and known by preceding holydays, and the rest appointed at the judge's pleasure.

COLLEGE of physicians, a corporation of physicians in London, whose number, by charter, is not to exceed eighty: The chief of them are called fellows, and the next candidates, who fill up the places of fellows as they become vacant by death, or otherwise. Next to these are

the honorary fellows, and lastly, the licentiates, that is, such as being found capable, upon examination, are allowed to practise physic.

This college has several great privileges granted by charter and acts of parliament. No man can practise physic in, or within seven miles of London, without license of the college, under the penalty of 5*l*. Also, persons practising physic in other parts of England, are to have letters testimonial from the president and three elects, unless they be graduate physicians of Oxford or Cambridge. Every member of the college, is authorised to practise surgery in London, or elsewhere; and that they may be able at all times to attend their patients, they are freed from all parish offices.

The college is governed by a president, four censors, and twelve electors. The censors have, by charter, power to survey, govern, and arrest all physicians, or others, practising physic in or within seven miles of London; to fine, amerce; and imprison them at discretion; to search apothecaries shops, &c. in and about London; to see if their drugs, &c. be wholesome, and the compositions according to the form prescribed by the college in their dispensaries; and to burn, or otherwise destroy, those that are defective or decayed, and not fit for use. They are judges of record, and not liable to action for what they do in their practice but by judicial powers; subject nevertheless to appeal to the college of physicians. However the college is not very rigorous in asserting its privileges, there being some of very good abilities who practise in London, &c. without their license: yet, by law, if any person, not expressly allowed to practise, take upon him the cure of any disease, and the patient die under his hand, it is deemed felony in the practitioner.

In 1696, forty-two members of the college made a subscription, to set on foot a dispensary for the relief of the sick poor, who are advised gratis every day but Sunday, and medicines sold at the intrinsic value: since this they have erected two other dispensaries.

Royal COLLEGE of physicians, is also a corporation of physicians in Edinburgh, erected by king Charles II. granting them, by patent under the great seal, an ample jurisdiction within this city and liberties, commanding the courts of justice to assist them in the execution of their orders.

orders. These have the sole faculty of professing physic here, and hold conferences once a month for the improvement of medicine. This college consists of a president, two censors, a secretary, and the ordinary society of fellows, who, upon St. Andrew's day, if it falls on a Thursday, if not on the first Thursday after, elect seven counsellors, who chuse the president and the other officers for the ensuing year. By their charter the president and censors have power to convene before them all persons that presume to practise physic within the city of Edinburgh, or the liberties thereof, without the license of the college; and to fine them in five pounds sterling. They are also empowered to visit apothecaries shops, and examine apothecaries themselves; with several other rights and privileges.

Sion-COLLEGE, or the college of the London clergy, was formerly a religious house, next to a spittal, or hospital, and now it is a composition of both, *viz.* a college for the clergy of London, who were incorporated in 1631, at the request of Dr. White, under the name of the president and fellows of Sion-College; and an hospital for ten poor men, the first within the gates of the house, and the latter without.

This college consists of a president, two deans, and four assistants, who are annually chosen from among the rectors and vicars in London, subject to the visitation of the bishop. They have one of the finest libraries in England, built and stocked by Mr. Simpson, chiefly for the clergy of the city, without excluding other students on certain terms; they have also a hall with chambers for the students, generally filled with the ministers of the neighbouring parishes.

Gresham-COLLEGE, or *COLLEGE of philosophy*, a college founded by Sir Thomas Gresham, who built the Royal-exchange, a moiety of the revenue whereof he gave in trust to the mayor and commonalty of London, and their successors, for ever, and the other moiety to the company of mercers; the first, to find four able persons to read in the college divinity, astronomy, music, and geometry; and the last, three or more able men to read rhetoric, civil law, and physic; a lecture upon each subject is to be read in term-time, every day, except Sundays, in Latin, in the forenoon, and the same in English in the afternoon; only the music lecture is to be read alone in English.

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The lecturers have each 50*l.* per annum; and a lodging in the college.

In this college formerly met the royal society, that noble academy, celebrated throughout the world for their improvements in natural knowledge. See the article *SOCIETY*.

COLLEGE of heralds, or *COLLEGE of arms*, commonly called the *heralds office*, a corporation founded by charter of king Richard the third, who granted them several privileges, as to be free from subsidies, tolls, offices, &c. They had a second charter from king Edward the sixth, and a house built near Doctors-commons, by the earl of Derby, in the reign of king Henry the seventh, was given them by the duke of Norfolk, in the reign of queen Mary, which house is now rebuilt. This college is subordinate to the earl marshal of England. They are assistants to him in his court of chivalry, usually held in the common hall of the college, where they sit in their rich coats of his majesty's arms. See the article *HERALD*.

COLLEGE of heralds in Scotland. The principal person in the scottish court of honour is lyon king at arms, who has six heralds and six pursuivants, and a great number of messengers at arms under him, who, together, make up the college of heralds. The lyon is obliged to hold two peremptory courts in the year, at Edinburgh, on the 6th of May and the 6th of November, and to call officers of arms and their cautioners before him upon complaints; and if found culpable upon trial, to deprive and fine them and their cautioners. Lyon and his brethren the heralds have power to visit the arms of noblemen and gentlemen, and to distinguish them with differences, to register them in their books, as also to inhibit such to bear arms as by the law of arms ought not to bear them, under the pain of escheating to the king the thing whereon the arms are found, and of a hundred marks Scots to lyon and his brethren; or of imprisonment during lyon's pleasure. The college of heralds are the judges of the malversation of messengers, whose business is to execute summonies and letters of diligence for civil debt, real or personal.

COLLEGES of common law. See the article *INNS of court and chancery*.

Besides these colleges, we have three charitable foundations for learning, called colleges, *viz.* Winchester, Eaton, and Westminster.

COLLEGES for disabled soldiers, sailors, &c. See the article **HOSPITAL**.

COLLEGIAL, or **COLLEGIATE**. See the article **COLLEGIATE**.

COLLEGIANS, in church-history, religious societies, or clubs, among the Dutch, consisting of persons of various professions, but all agreeing that the scriptures are the writings of men inspired. These meetings are established in several towns of Holland, Friesland, West Friesland, and particularly at Rinsburg, a village near Leyden, where they meet twice a week. In these clubs every one has a right to speak his own sentiments, whether he be a churchman or a layman.

COLLEGIATE CHURCHES, those which tho' no bishop's see, yet have the retinue of the bishop, the canons and prebends. Such are, among us, Westminster, Windsor, Rippon, Wolverhampton, Southwell, Manchester, &c. governed by deans and chapters. See the articles **DEAN** and **CHAPTER**.

There are two kinds of these collegiate churches, some of royal foundation, others of ecclesiastical foundation: each of them, in matters of divine service, are regarded in the same manner as cathedrals. There are even some collegiate churches which have episcopal rights; some of these churches were antiently abbeys, which in time were secularized.

COLLEGIATE AUDITORS. See **AUDITOR**.
Vergers of **COLLEGIATE CHURCHES**. See the article **VERGER**.

COLLEMA, in botany, a genus of mosses, consisting merely of a gelatinous matter, resembling boiled glue or size. This is sometimes disposed in form of filaments, sometimes of membranes, and sometimes of neither, but perfectly shapeless. No part of fructification has ever yet been distinguished in any of the species of this genus.

COLLET, among jewellers, denotes the horizontal face or plane at the bottom of brilliants.

COLLET, in glass making, is that part of glass vessels which sticks to the iron instrument wherewith the metal was taken out of the melting pot: these are afterwards used for making green glass.

COLLETICS, *colletica*, in pharmacy and surgery, denote much the same with agglutinants, or vulneraries. See the article **VULNERARY**.

COLLINSONIA, in botany, a genus of the diandria-monogynia class of plants, whose corolla consists of a single, unequal

petal; the tube is of a conico-cylindrical shape, and is much larger than the cup; the limb is quadrifid and erect; one of the segments very long, and divided to the middle into other smaller, ramose and capillary laciniae: the segment opposite to this is very small, emarginated and acute; the lateral ones are opposite to one another, and are erect, entire, and very small.

There is no pericarpium; (that ever Linnæus observed) the seed is single, of a globular figure, and is contained in the bottom of the cup.

COLLIQUAMENTUM, in natural history, an extreme transparent fluid in an egg, observable after two or three days incubation, containing the first rudiments of the chick. It is included in one of its own proper membranes, distinct from the albumen. Harvey calls it the *occulus*.

COLLIQUATION, in chemistry, is applied to animal, vegetable, and mineral substances, tending towards fusion. See the article **FUSION**.

COLLIQUATION, in physic, a term applied to the blood, when it loses its crasis or balsamic texture; and to the solid parts, when they waste away, by means of the animal fluids flowing off through the several glands, and particularly those of the skin, faster than they ought: which occasions fluxes of many kinds, but mostly profuse, greasy, and clammy sweats. The curative intention in this case is, the giving a better consistence by balsamics and agglutinants to the blood, and the hardening of the solids by subastringents.

COLLIQUATIVE FEVER, in physic, a fever attended with a diarrhoea, or profuse sweats, proceeding from colliquation. See **COLLIQUATION**.

COLLISEUM, or **COLISEUM**. See the article **COLISEUM**.

COLLISION, the striking of one hard body against another; or the friction or percussion of bodies moving violently with different directions, and dashing against each other. See **PERCUSSION**.

COLLUM, the same with neck. See the articles **NECK** and **CERVIX**.

COLLUSION, in law, a secret understanding between two parties, who plead or proceed fraudulently against each, to the other prejudice of a third person.

In the canon law, collusion in matters of benefices vacates the benefice, and incapacitates the person from holding any benefice at all.

COLLU-

COLLUTHIANS, in church-history, a religious sect which arose in the sixth century, on occasion of the indulgence shewn to Arius by Alexander, patriarch of Alexandria: they held that God was not the author of the evils and afflictions of this life, &c.

COLLYRIDIANS, in church-history, a sect of antient heretics, who paid divine honours to the virgin Mary, offering her little cakes called *collyrida*.

COLLYRIUM, in pharmacy, a topical remedy for disorders of the eyes; designed to cool and repel hot, sharp humours, which they do more effectually, if assisted by the inward use of diuretics at the same time.

They are generally of two kinds, the one liquid, and the other dry: liquid collyrias are composed of ophthalmic powders in water, as rose-water, plantain-water, or that of fennel, eye-bright, &c. wherein tutty, white vitriol, or some other proper powder is dissolved.

The dry collyrium is troches of rkasis, sugar-candy, tutty prepared, &c. blown into the eye.

COLOCYNTHIS, in botany, the plant which produces the colocintida of the shops, and usually called bitter-apple: this, according to Tournefort, makes a distinct genus, but is comprehended by Linnæus under the cucumis, or cucumber-kind. See the articles CUCUMIS and COLOQUINTIDA.

COLOGNE, the capital of the circle of the lower Rhine; in Germany, situated on the Rhine, about forty-five miles east of Maestricht: east longitude $6^{\circ} 40'$, north latitude $50^{\circ} 50'$.

It is one of the largest and most elegant cities of Germany, being the see of an archbishop, who is one of the electors of the empire, and has a yearly revenue of 130,000*l.* sterling.

COLOGNE earth, a substance used in painting, much approaching to amber in its structure, and of a deep brown. It has generally been esteemed a genuine earth, but has been discovered to contain a great deal of vegetable matter, and, indeed, is a very singular substance.

It never constitutes an entire stratum in the earth, but is lodged among other strata in large flat detached masses. It is moderately dry, while in the earth, and of a soft crumbly texture. When dried, it is of a deep, dusky brown, of a very close, compact, and fine structure, and very remarkably light; it is of a smooth,

even surface, dry, but not harsh to the touch, crumbles easily to pieces between the fingers, and slightly stains the hands; it adheres firmly to the tongue, and is of a very austere and astringent taste, but not at all resembling the astringency of the boles, or any thing else of the mineral kingdom, but plainly resembling the taste of oak bark. It makes no effervescence with acids; if thrown into water, it swims on the surface, till thoroughly wetted; and if brought into contact with burning coals, it takes fire, and burns of itself, till reduced to yellowish ashes.

It is easy to discern from this account, that though this is generally esteemed an earth, and known to the world by no other name, it is no pure native fossil, but contains more vegetable, than mineral matter, and owes its origin to the remains of wood which has been long buried in the earth. It is dug in Germany and France: the quantities consumed in painting, in London, are brought from Cologne, where it is found very plentifully; but our own kingdom is not without it, it being found near Birmingham, and on Mendip-hills, in Somersetshire; but what has been yet found there is not so pure or fine, as that imported from Cologne.

COLON, in anatomy, the second of the three large intestines, called *intestina crassa*.

The situation of this is at the circumference of the small intestines, and is usually convoluted and flexuous, variously, in a strange manner. Its beginning is above the termination of the ilium, and its end at the os sacrum. It is connected with the os ilii, the right kidney, the gall-bladder, the liver, the stomach, the spleen, and finally with the left kidney. Its length is from five to seven spans; its diameter is the greatest of that of any intestine. It has three ligaments terminating in the vermiform process that runs longitudinally in it. It has also certain external adipose appendiculæ, which serve to lubricate it. The conivent valves are larger in this than in any other of the guts, and the coats it is composed of are stronger than in the small guts.

COLON, in grammar, a point or character marked thus, (:) shewing the preceding sentence to be perfect or intire; only that some remark, farther illustration, or other matter connected therewith,

is subjoined. See the articles **POINTING**, **PERIOD**, **COMA**, &c.

According to a late ingenious author, the colon differs from the semicolon, &c. in serving to distinguish those conjunct members of a sentence which are capable of being divided into other members; whereof one, at least, is conjunct.

COLONEL, in military matters, the commander in chief of a regiment, whether horse, foot, or dragoons.

A colonel may lay any officer of his regiment under arrest, but must acquaint the general with it; he is not allowed a guard, only a centry from the quarter-guard.

COLONEL-LIEUTENANT, he who commands a regiment of guards, whereof the king, prince, or other person of the first eminence, is colonel.

These colonel-lieutenants have always a colonel's commission, and are usually general officers.

Lieutenant-COLONEL, the second officer in a regiment, who is at the head of the captains, and commands in the absence of the colonel.

COLONNA, a town of Italy, in the Campagna of Rome, eighteen miles eastward of that city: east longitude $13^{\circ} 15'$, north latitude 42° .

COLONNADE, in architecture, a peristyle of a circular figure: or a series of columns disposed in a circle, and insulated within side. See **PERISTYLE**.

Such is that of the little park at Versailles, consisting of thirty-two ionic columns, all of solid marble, and without incrustation.

A *polystyle* **COLONNADE**, is that whose number of columns is too great to be taken in by the eye at a single view. Such is the colonnade of the palace of St. Peter's, at Rome, consisting of 284 columns of the doric order, each above four foot and an half diameter, all in tiburtine marble.

COLONY, *colonia*, a company of people transplanted into a remote province, in order to cultivate and inhabit it.

Colonies are of three sorts: the first are those that serve to ease and discharge the inhabitants of a country, where the people are become too numerous; the second are those established by victorious princes in the middle of vanquished nations, to keep them in awe and obedience; and the third sort are those established for the promotion of trade, called colonies of commerce; such are those established by

European nations in several parts of Asia, Africa, and America.

It has been a matter of doubt with some, whether our colonies in America have not proved prejudicial to Great Britain. It is agreed, that their colonies in America have proved highly detrimental to the Spaniards: owing to the nature of their government; as the inquisition frights away strangers; as their monasteries prevent marriages; and as there is no provision at all to repair what their colonies drain them of: whereas the Hollanders, who send out greater numbers every year than the Spaniards, are not depopulated by it: their constitution inviting more over to them than they send abroad; and in the British colonies, all foreigners may be made denizens, for an inconsiderable charge; whereby many of all nations are encouraged to settle and plant in our Indies, whence the crown gains subjects of them and their posterity, and to the nation accrues wealth by their labour and industry. There is reason to think that, for some years, the plantations have sent of their offspring, and the persecutions abroad have brought us as much people as the colonies have drained us of. Wherefore we may safely advance, that our trade and navigation are greatly increased by our colonies; and that they really are a source of treasures and naval power to this kingdom, since they work for us, and their treasures center here. See the article **PLANTATION**.

COLOPHONY, in pharmacy, black resin, or turpentine, boiled in water, and afterwards dried; or which is still better, the caput mortuum remaining after the distillation of the ethereal oil, being further urged by a more intense and long continued fire.

When colophony, thus prepared, is treated with a fire of suppression, it yields a thick oil along with a heavy, acid water, which discovers the nature and genuine properties of a resin. Whatever virtues therefore colophony is possessed of, may be ascribed to the energy of these two principles, combined and blended into one common substance. Colophony reduced to powder, is of singular advantage in surgery, in cases where the bones are laid bare, or the periosteum, tendons and muscles injured by burns, corrosions, contusions, punctures, lacerations, or partial divisions. It also pre-
vents

vents desfluxions of serum on the joints, and induces cicatrices, and checks the fungous excrefcences of ulcers, if applied in the same manner. Besides its drying, consolidating, and lenitive qualities, it is an ingredient in several plaisters and ointments.

COLOQUINTIDA, **COLOCYNTH**, *colocynthis*, in pharmacy, the fruit of the plant colocynthis. See **COLOCYNTHIS**. It is sent to us dried, or cleansed of its outer bark, which is yellowish, and tough, and of the thickness of a shilling, or a little more: it ought to be chosen dry, light, and tough, of a good bright colour, and not dully.

Coloquintida has been known in medicine from the earliest times as one of the strongest purges we are acquainted with: it is sent us from Syria, particularly from Aleppo. Coloquintida distilled with water, in the common way, with an alembic, affords an insipid, inodorous liquor, not at all purging: but being fermented and distilled, it yields a spirituous liquor that purges strongly. All the medical writers, from Hippocrates down to the latest times, give it the character of the most powerful known hydragogue, and it has been prescribed in pains of the limbs, head-achs of the worst kinds, obstructions of the viscera, and terrible cutaneous foulnesses; as also in dropsies with great success: but it is to be given with great caution. In large doses it is so violent in its operation, that it has like to have been excluded the materia medica as a poison. If it brings an hypercatharsis and convulsions, the readiest way of relieving the patient is by giving oil in considerable quantities, as well by the mouth, as in clysters. It is scarce ever prescribed singly, at this time. It is an ingredient in the pillulæ coccæ, and, though in a very large proportion, is never found to do any hurt there.

COLOR, or **COLOUR**. See **COLOUR**.

COLORATION. See the article **COLORIZATION**.

COLORATURA, in music, denotes all manner of variations, trillos, diminutions, &c. serving to make a song agreeable.

COLORIZATION, or **COLORATION**, in pharmacy, a term sometimes used for the changes of colour which bodies undergo, whether by calcination, coction, fermentation, &c.

COLOSSUS, a statue of a gigantic, or enormous size.

The most famous of this kind was the colossus of Rhodes, made, in honour of Apollo, by Chares the disciple of Lyfippus. It was eighty-six feet high, and its thumb so large, that few people could fathom it. This statue was placed across the mouth of the harbour at Rhodes, and the ships with full sails passed betwixt its legs.

COLOSTRUM, or **COLOSTRA**, in medicine, the first milk of any animal after bringing forth young, called beestings. It is remarkable that this milk is generally cathartic, and purges off the meconium; thus serving both as an aliment and medicine.

An emulsion prepared with turpentine, dissolved with the yolk of an egg, is sometimes called by this name.

COLOUR, or **COLOR**, in physiology, an inherent property in light, exciting different vibrations, according to the different magnitude of its parts, in the fibres of the optic nerve, which being propagated to the sensorium, affect the mind with different sensations: or, according to others, it is only the reflection of light, variously changed by opaque bodies, or even light itself.

The philosophers before Sir Isaac Newton's time supposed that all light, in passing out of one medium into another of different density, was equally refracted in the same or like circumstances: but that great philosopher hath discovered, that it is not so; but "That there are different species of light; and that each species is disposed both to suffer a different degree of refrangibility in passing out of one medium into another, and to excite in us the idea of a different colour from the rest; and that bodies appear of that colour which arise from the composition of the colours the several species they reflect are disposed to excite."

There are abundance of experiments for the confirmation of this doctrine, among which the following will serve sufficiently to illustrate the proposition, and evince the truth of it. And,

First, There are different species of light, and each species is disposed to suffer a different degree of refrangibility, and to excite the idea of a different colour. To shew this, let a room be darkened, and the sun permitted to shine into it thro' a small hole in the window-shutter, and be made to fall upon a glass prism: then

then will the sun's light, in passing through this prism, suffer different degrees of refraction, and, by that means, be parted into different rays; which rays, being received upon a clean white paper, will exhibit the following colours, *viz.* red, orange, yellow, green, blue, indigo, and a violet purple. Thus let AB (plate XLVI. fig. 1.) represent the window-shutter, C, the hole in it, DEF, the prism, ZY, a ray of light coming from the sun, which passes through the hole, and falls upon the prism at Y, and if the prism were removed, it would go on to X: but in entering its first surface EF, shall be refracted into the course YW, fall upon the second in W, where in going out into the air it shall be refracted again. Let the light now, after it has passed the prism, be received upon a sheet of white paper GH IK held at a proper distance, and it will exhibit upon the paper a picture or image at LM, of an oblong figure, whose ends are semicircular, and sides straight; and it shall be variegated with colours after the following manner.

From the extremity M, to some length, suppose to the line *no*, it shall be of an intense red; from *no* to *pq*, it shall be of an orange colour; from *pq* to *rs*, it shall be yellow; from thence to *tu*, it shall be green; from thence to *vx*, blue; from thence to *yz*, indigo; and from thence to the end, violet. And if the whole image be divided lengthwise into 360 equal parts, the red shall take up 45 of them; the orange, 27; the yellow, 48; the green, 60, the blue, 60; the indigo, 40; and the violet, 80.

There are several experiments made which shew that the dispositions of the rays of light, to produce some one colour, and some another, are not wrought by any action of the prism upon them, but are originally inherent in those rays; and that the prism only affords each species an occasion of shewing its distinct quality, by separating them, one from the other, which before, while they were blended together in the unrefracted light of the sun, lay concealed. See the articles LIGHT, REFLECTION, REFRACTION, and RAY. From this doctrine it is clear, that each species of rays is disposed to excite in us the idea of a different colour; and that this is the case, is confirmed by what follows, *viz.* That whatever species of rays are thrown upon any body, they make that body appear of their own co-

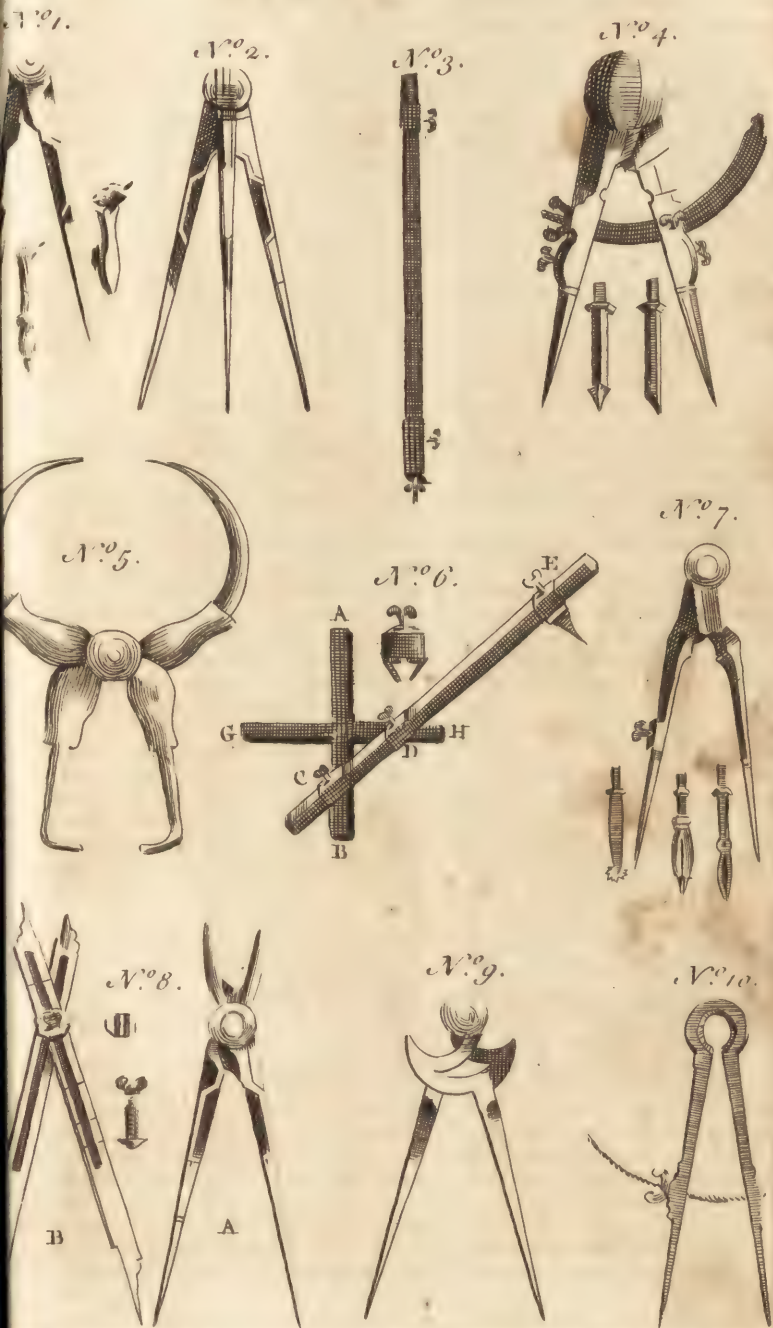
lour. Thus minium in red light, appears of its own colour; but in yellow light, it appears yellow; and in green light, it appears green; in blue, blue; and in violet-purple coloured light, it appears of a purple colour. In like manner, verdigrease will put on the appearance of that colour in which it is placed: but each of these bodies appears most luminous and bright when enlightened with its own colour, and dimmest in such as are most remote from that. It is certain, therefore, that each ray is disposed to excite its own colour, which is neither to be altered by refraction nor reflection. This much in confirmation of the first part of the proposition; and now we proceed to the second part, *viz.* That bodies appear of that colour, which results from a composition of those colours, which the several species they reflect are disposed to excite. We will therefore proceed to shew, that other colours may be produced from a mixture of those seven already mentioned, which rays of light, when separated by a prism, are disposed to exhibit. From whence it will be rational to conclude, that bodies appear of that colour, which arises from the mixture of those which they reflect.

All the prismatic colours mixed together appear white, a little inclining to yellow, such as is that of the light of the sun.

* To shew this, let a convex lens be placed between the prism and the paper which receives the image, (*id. ibid.*) in order that the rays separated by it may be collected into a focus; and let the focus fall upon the paper: then will the spot where it falls appear white; and if we remove the paper from the focal point, the same coloured image will be exhibited, but inverted, because the rays cross each other in the focus. But if the rays of any particular colour be intercepted before they are collected in the said spot, it then not only appears of a different colour from what it did before, but different from any of the prismatic colours taken separately.

No composition of these colours will produce black; that being no colour, but the defect or absence of all colour whatever. What it is gives bodies this power of reflecting some one sort of rays most copiously, and some another, is probably nothing else than the different magnitude of the particles whereof they are composed: this Sir Isaac Newton thinks a probable ground for conjecturing about the magnitude

COMPASSES.



J. Jefferys sculp.



tude of the constituent particles of bodies. The green of vegetables he takes to be of the third order, as likewise the blue of syrup of violets: the azure colour of the sky he takes to be of the first order, as also the most intense and luminous white; but if it is less strong, he then conjectures it to be a mixture of the colours of all orders. Of the latter sort he takes the colour of linen, paper, and such like substances to be; but white metals to be of the former sort. For producing black, the particles must be smaller than for exhibiting any of the colours. But that some bodies reflect one sort of rays most copiously, and some another, from no other reason than the different magnitude of their constituent particles, will appear hence:

If water be prepared with soap, so as to render it sufficiently tenacious, and then blown up into a bubble, it is observable, that as the bubble grows thinner and thinner (as it will do by reason of the water's continually running down from the top of it, till it breaks) different colours will arise, one after another, at the top of the bubble, spreading themselves into rings, and descending till they vanish at the bottom, in the same order as they rose at the top. Thus, in an experiment of this kind, tried by Sir Isaac Newton, the colours arose in this order, first red, then blue; to which succeeded red a second time, and blue immediately followed; after that, red a third time, succeeded by blue; to which followed a fourth red, but succeeded by green; after this a more numerous order of colours, first red, then yellow, next green, and after blue, and at last purple; then again red, yellow, green, blue, and violet followed each other; and the last order of colour that arose was red, yellow, white, and blue; to which succeeded a dark spot that afforded scarce any light, though it was observed to cause some very obscure reflection, for the image of the sun or candle might be faintly discerned in it; and this last spot spread itself more and more till the bubble broke.

COLOUR, in painting, is applied both to the drugs, and to the tints produced by those drugs variously mixed and applied.

The principal colours used by painters are red and white lead, or ceruls; yellow and red ochres; several kinds of earth, umbre, orpiment, lamp-black, burnt ivory, black lead, cinnabar or vermillion, gumboge, lacca, blue and green

alhes, verdigrise, bistre, bicce, smalt, carmine, ultramarine: each of which, with their uses, &c. are to be found under their proper articles.

Of these colours some are used tempered with gum-water, some ground with oil, others only in fresco, and others for miniature.

Painters reduce all the colours they use under these two classes, of dark and light colours: dark colours are black, and all others that are obscure and earthy, as umbre, bistre, &c.

Under light colours are comprehended white, and all that approach nearest to it. Painters also distinguish colours into simple and mineral.

Under simple colours they rank all those which are extracted from vegetables, and which will not bear the fire; as the yellow, made of saffron, french berries, lacca, and other tinctures extracted from flowers used by limners, illuminers, &c.

The mineral colours are those which being drawn from metals, &c. are able to bear the fire, and therefore used by enamellers. Changeable and permanent colours is another division, which, by some, is made of colours.

Changeable colours are such as depend on the situation of the objects with respect to the eye, as that of a pigeon's neck, taffeties, &c. the first however being attentively viewed by the microscope, each fibre of the feathers appears composed of several little squares, alternately red and green, so that they are fixed colours.

Local COLOURS. See the article LOCAL.

Water COLOURS. See the article WATER.

COLOUR, in dyeing. There are, in the art of dyeing, five colours, called simple, primary, or mother colours, from the mixture of which all other colours are formed; these are blue, yellow, brown, red, and black. Of these colours, variously mixed and combined, they form the following colours, pansy, blue, and red; from the mixture of blue and scarlet are formed amaranth, violet, and pansy; from the same mixture of blue, crimson, and red, are formed the columbine or dove-colour, purple-crimson, amaranth, pansy, and crimson-violet.

Here it is to be observed that they give the name crimson to all colours made with cochineal.

Of blue and red madder is died purple, pepper colour, tan-colour, and dry-rose-colour.

The same blue with red half in grain makes

makes amaranth, tan-colour, and dry-rose-colour.

Blue and half red-crimson, compose amaranth, tan-colour, dry-rose, a brown panis, and sun-brown.

Blue and yellow, mixed together, compose a yellow-green, spring-green, grass-green, laurel-green, brown-green, dark-green; as well as sea-green, parrot-green, cabbage green, &c. These three last colours are to be less boiled than the rest. It is to be noted, that as to green, there is no ingredient or drug in nature that will dye it; but the stuffs are dyed twice, first in blue, then in yellow.

Blue and brown. These two colours are never mixed alone, but with the addition of red, either of madder or cochineal: they form several colours.

Red and yellow. All the shades composed of these two colours, as gold, yellow, aurora, marygold, orange, nacar, granat-flower, flame colour, &c. are made with yellow and red of madder, scarlet being less proper as well as too dear.

Red and brown. Of these two colours are formed cinnamon-colour, chestnut, musk, bear's hair, and even purple, if the red be of madder.

Yellow and brown. The colours formed from these two, are all the shades of fenille-mort, and hair-colours. But this may be taken notice of, that though it be said that there are no colours or shades made from such and such mixtures, it is not meant that none can be made, but that they are more easily formed from a mixture of other colours.

COLOUR, in heraldry. The colours generally used in heraldry are red, blue, black, green, and purple, which the heralds call gules, azure, sable, vert or sinople, and purpure; tenné or tawny, and sanguine, are not so common: as to yellow and white, called or and argent, they are metals not colours.

The metals and colours are sometime expressed in blazon by the names of precious stones, and sometimes by those of planets or stars. See **BLAZONING**.

Oenomaus is said to have first invented the distinction of colours, to distinguish the gundillæ of combatants of the circensian games; the green for those who represented the earth, and blue for those who represented the sea.

COLOUR, in law, some probable plea, though really false in itself, and only calculated to draw the trial of the cause from

the jury to the judge; for which reason it ought to be matter in law, or doubtful to the jurors.

COLOUR of office, signifies some unjust action done under countenance of an office, and is opposed to *virtute officii*, which implies a man's doing a right and just thing in the execution of his office.

COLOURS, in the military art, include the banners, flags, ensigns, &c. of all kinds, borne in the army or fleet. See the articles **FLAG** and **STANDARD**.

COLOUR-GOURD. See the article **GOURD**. **Field-COLOUR**. See the article **FIELD**.

COLOURS, in the latin and greek churches, are used to distinguish several mysteries and feasts, celebrated therein.

Five colours only are regularly admitted into the latin church; these are white, green, red, violet, and black: the white is for the mysteries of our Saviour, the feasts of the virgin, those of the angels, saints, and confessors; the red is for the mysteries and solemnities of the holy sacrament, the feasts of the apostles and martyrs; the green for the time between pentecost and advent, and from epiphany to septuagesima; the violet in advent and christmas, in vigils, rogations, &c. and in votive masses in time of war; lastly, the black is for the dead, and the ceremonies thereto belonging.

In the greek church, the use of colours is almost abolished, as well as among us: red was, in the greek church, the colour for christmas, and the dead, as black among us.

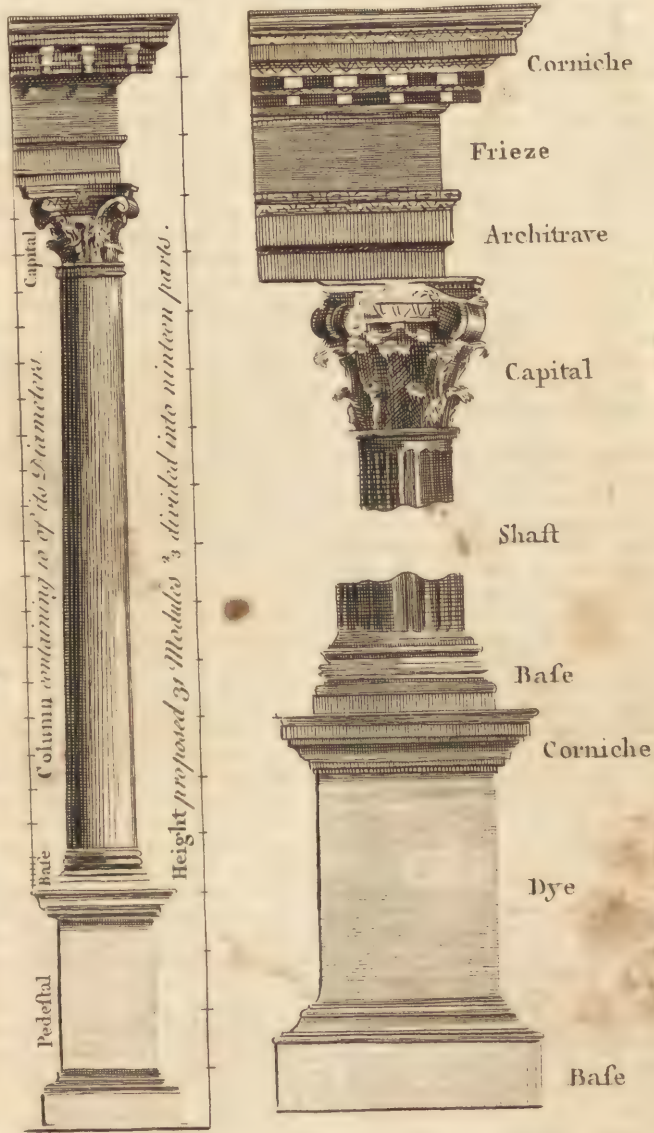
To COLOUR strangers goods, is when a freeman allows a foreigner to enter goods at the custom-house in his name.

COLOURING, among painters, the manner of applying and conducting the colours of a picture; or the mixtures of light and shadows, formed by the various colours employed in painting.

The colouring is one of the chief branches in painting, which art is, by Mr. Felibien, divided into three parts, the design, the composition, and the colouring. See the article **PAINTING**.

Though the colouring strikes most, yet, among masters, it always gives place to the exactness of the design. According to M. de Piles, the word colouring, in a more limited sense, is chiefly applicable to a history-piece, scarce at all to landscapes: he adds, that the term relates more immediately to the carnations than to any thing else. The colouring, in its general sense, comprehends whatever relates

C O M P O S I T E O R D E R



Plan of the Order

J. Jefferys sculp



lates to the nature and union of colours; their agreement or antipathy; how to use them to advantage in light and shadow, so as to shew a relievö in the figures, and a sinking of the ground; what relates to the aerial perspective, that is, the diminution of colours by means of the interposition of the air; the various accidents and circumstances of the luminary, and the medium; the different light both of the bodies illuminating and illuminated; the reflections, shadows, and different views with regard to the position of the eye, or the object; what produces strength, boldness, sweetness, &c. in paintings, well coloured; the various manners of colouring, both in figures, landscapes, &c.

The *coloris*, or colouring, is different from colour; the latter renders the object sensible to the eye; the former is that by which the painter knows how to imitate the colour of all natural objects, by a judicious mixture of the simple colours upon his pallet: it teaches the manner in which colours are to be used for producing those fine effects of the *chiaro obscuro*, light and shade, which add boldness and a kind of relievö to the figures, and shew the remoter objects in their just light.

For the effects of colours, painters regard either the union or the economy: with respect to the first, care must be taken that they be laid so as to be sweetly united under the briskness of some principal one; that they participate of the prevailing light of the piece; and that they partake of each other by the communication of light and the help of reflection.

For the economy in managing their degrees, regard is to be had to the contrast or opposition intervening in the union of the colours; and, by a sweet interruption, the briskness, which otherwise fades and palls, may be raised to the harmony which makes the variety of colours agree; supplying and sustaining the weakness of some by the strength of others; neglecting some places on purpose to serve as a basis or repose to the sight; and to enhance those which are to prevail throughout the piece. As to the degradation, where, the better to proportion the colours that fall behind, some of the same kind are to be preserved in their purity, as a standard for those carried afar off, to be compared by, in order to justify the diminution; regard being always had to the quality of the air, which, when loaded with vapours, weakens the colours more than when clear: to the situation of the

colours, where care must be taken that the purest and strongest be placed before, or in the front of the piece; and that, by their force, the compound ones, which are to appear at a distance, be kept back, particularly the glazed colours, to be used in the first rank: lastly, regard must be had to the expression of the subject, and the nature of the matters or stuffs, whether shining or dull, opaque or transparent, polished or rough.

COLOURING and non-colouring drugs. Into these dyers distinguish their drugs: the first are applicative, and communicate their colours to the matters boiled in them, or passed through them, as woad, scarlet-grain, cochineal, indigo, madder, turmeric, &c.

The second serve to prepare and dispose the stuffs and other matters, and to extract the colour out of the colouring ingredients; as alum, salt or crystal of tartar, arsenic, realgal, salt-petre, common salt, sal ammoniac, sal gemmæ, agaric, spirit of wine, bran, peas flour, wheat, starch, lime, and ashes.

COLOURING or PAINTING of glass. See the article GLASS.

COLOURING or PAINTING of porcelain. See the article PORCELAIN.

COLOURING of leather. See LEATHER.

COLOURING of marble. See MARBLE.

COLT, in zoology, the same with foal, being the young of the horse-kind. See the article FOAL.

COLT-EVIL, among farriers, a swelling of the yard and cods, incident both to stoned horses and geldings; for which, after washing the parts with lukewarm vinegar, it is usual to anoint them with juice of rue, mixed with honey, and boiled in hog's grease, adding bay-leaves and the powder of fenugreek.

COLT'S FOOT, in botany, the english name of the tussilago. See TUSSILAGO.

COLTIE, a term used by timber-merchants for a defect, or blemish, in some of the annular circles of a tree, whereby its value is much diminished.

COLUBER, in zoology, a very numerous genus of serpents, distinguished by the following characters; the abdomen, or under part of the body, is covered with a great number of scuta, or hard crusts; and the tail, on the contrary, with scales. Of this genus authors enumerate a great many species, distinguished by the number of these scuta and scales, as the naja, lemniscata, natatrix, hippo, petola, sibon, &c.

Besides these there are several very beautiful species of coluber without particular names, two of which are represented in plate LIII. fig. 1.

COLUBRINUM LIGNUM, SNAKE-WOOD, in the materia medica, a woody substance of a tolerably firm and dense texture, brought to us from the island of Timor, and some other parts of the east, from a foot to near twice as much in length, and from an inch to four or five inches in diameter: it is more properly a root than a wood, though so called; for what we receive is always the smaller or middling branches of the root: the tree is a species of that which produces the *nux vomica*. See the article *Nux Vomica*.

The Indians are of opinion that this root is a remedy for the bite of a serpent called cobra de capello. However this be, it is allowed to be a remedy for intermittents, and a destroyer of worms: it operates differently, as taken in larger or smaller doses; sometimes by urine, sometimes by sweat, by stool, or by vomit; the last is the case when a large dose is given: if yet larger, it brings on convulsions, and sometimes proves fatal. It is never given internally, till it has been kept some years. We very seldom use it, being generally productive of convulsions or deliriums.

COLUMBA, PIGEON, in ornithology, a genus of passers, the characters of which are these, the beak is straight, and furaceous or scaly towards the base; the nostrils are oblong, membranaceous, and half covered over; and the tongue is entire, or undivided.

To this genus belong all the kinds of domestic pigeons, and the oenas, palumbus, and turtur. See the articles *OENAS*, &c. See also plate XLV. fig. 1. which represents the long-tailed, variegated, west-indian dove, with a roundish black spot on each side of the head.

COLUMBA GROENLANDICA, the SEA-TURTLE-DOVE, in ornithology, a species of the colymbus or diver-kind, with three webbed toes on each foot. See the article *COLYMBUS*.

COLUMBINE, *aquilegia*, in botany. See the article *AQUILEGIA*.

COLUMBINE COLOUR, or *DOVE-COLOUR*, among painters, denotes a kind of violet.

COLUMBUS, or *Congregation of St. COLUMBUS*, a society of regular canons, who formerly had an hundred abbeys or monasteries in the british islands.

COLUMN, in architecture, a round pillar,

made to support and adorn a building, and composed of a base, a shaft, and a capital. As every fulcrum is so much the more perfect, as it is firm, or carries the appearance of firmness; hence all columns ought to have their base broader than themselves. See *BASE*.

And as a cylinder and a quadrangular prism are more easily removed out of their place than a truncated cone, or a pyramid on the same base, and of the same altitude, the figure of columns ought not to be cylindrical, but grow less and less, like a truncated cone. Again, as columns are more firm if their diameter bears a greater proportion to their height than if it bore a less, the greater ratio is to be chosen where a large weight is to be sustained; and less, where a small weight is to be supported. Further, as the design of a column is to support a weight, it must never be supposed without an entablature.

Columns are different in the different orders of architecture, and may be considered with regard to their matter, construction, form, disposition, and use. With respect to the order, we have

Tuscan COLUMN, that which has seven diameters in height, and is the shortest and most simple of all the columns. See the article *TUSCAN ORDER*.

Its diminution is one fourth, that is, the diameter at top is three fourths of the diameter just above the base.

Doric COLUMN has eight diameters in height, and its capital and base more enriched with mouldings than the tuscan. It diminishes one fifth part of the diameter at the base. See the article *DORIC*.

Ionic COLUMN has nine diameters in height, and differs from the others by the volutes in its capital, and by its base. It diminishes one sixth part of the diameter at the base. See the article *IONIC*.

Corinthian COLUMN, the richest and most delicate of all, has ten diameters in height, and its capital adorned with two rows of leaves with caulicoles, from whence spring small volutes. It diminishes one seventh part of the diameter. See the article *CORINTHIAN*.

Composite COLUMN has likewise ten diameters in height, and two rows of leaves in its capital, with angular volutes like the ionic. It diminishes one eighth part of the diameter of the base. See the article *COMPOSITE*.

It may be observed, that different authors give different heights and proportions to columns

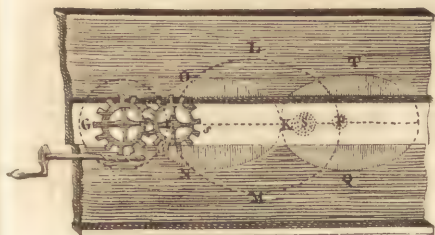
Fig. 2. CREEPER.



Fig. 1.
COLUMBA.



Fig. 3. COMETARIUM.





columns of the same order, and that frequently the same author takes the liberty of dispensing with his own rules; but that the heights and proportions exhibited above are a mean between the extremes of all the rest; in this we have followed Daviler and Mr. Perrault.

COLUMNS, with regard to their matter are:

Fusible COLUMN, comprehends not only columns of various metals, and other fusible matter, as glass, &c. but also those of stone, said to be cast, the secret of which some believe to have been known to the antients.

Hydraulic COLUMN, that whose shaft appears to be of crystal; being formed by a number of little threads of water, falling from holes made in a girt of metal, at equal distances, by means of a pipe mounting through the middle of it. It also denotes a column from whose top proceeds a jet d'eau, to which the capital serves as a basin, whence the water descends by a little pipe, which turns spirally round the shaft.

Moulded COLUMN, that made by impastation of gravel and flints of divers colours, bound together with a cement.

Water COLUMN, that whose shaft is formed of a large jet d'eau, which spouting out water violently from the base, drives it within the tambour of the capital, which is hollow, and in falling down it resembles a column of liquid crystal.

COLUMNS, with regard to their construction.

Cabled or Rudented COLUMN, that having projectures in form of cables, in the naked of the shaft, each cable having an effect opposite to that of a fluting, and accompanied with a little list on each side.

Colossal COLUMN, one of so large a size as not to enter any ordinance of architecture, but designed to be placed solitary in the middle of a square, &c. Such is the Trajan column.

Corallotic COLUMN, that adorned with foliages, turned spirally round the shaft, or in form of crowns and festoons: they are very proper for decorations of theatres.

Diminished COLUMN, that which has no swelling, but begins to taper from the base, in imitation of trees,

Geminated COLUMN, that whose shaft is formed of three similar and equal sides or ribs of stone, fitted within one another, and fastened at bottom with iron pins, and at top with cramp irons: it ought to be fluted, that the joints may be less discernible.

COLUMN of joinery, that made of strong timber-boards, joined together: it is hol-

low, turned in the lathe, and usually fluted: such are the columns of most altarpieces.

COLUMN of masonry is made of rough stone, well laid and covered with plaster; or of bricks, laid triangular-wise, and covered with stucco.

COLUMN of tambours, or bands, that whose shaft is formed of several courses of stone, or blocks of marble, less high than the diameter of the column.

COLUMN in trunchions, or pieces, consists of two, three, or four pieces of stone or metal, differing from the tambours as being higher than the diameter of the column.

COLUMNS with regard to their form are:

Fluted COLUMNS, called also channelled and striated columns, those whose shafts are adorned with flutes or channellings, either from top to bottom, or only two thirds of their height.

Gothic COLUMN, a round pillar, either too short for its bulk, or too slender for its height, having sometimes twenty diameters, without either diminution or swelling, consequently differing widely from the proportions of the antique.

Hermetic COLUMN, a kind of pilaster, in manner of a terme, having the head of a man in lieu of a capital. It is so called because the antients placed on the top of such columns the head of Mercury.

Massive COLUMN, one too short for the order, the capital of which it bears: it likewise comprehends tullan and rustic columns.

Oval COLUMN, that whose shaft has a flatness, its plan being made oval, to reduce the projecture.

Pastoral COLUMN, that whose shaft is formed in imitation of a trunk of a tree, with bark and knots. It may be used in the gates of parks and gardens, and in the decoration of pastoral scenes, &c.

Serpentine COLUMN, that formed of three serpents twisted together, the heads of which serve as a capital: it is now called the talisman or enchanted column.

Swelled COLUMN, that which has a bulging in proportion to the height of the shaft. This practice obtains among the modern architects, but seems to have been unknown to the antients.

Twisted COLUMN, that whose shaft is twisted round in form of a screw, with six circumvolutions, being ordinarily of the corinthian order. Sometimes the twisted column is in form of two or three slender shafts twisted round, so as to leave a cavity in the middle,

COLUMNS, with regard to their disposition.

Angular COLUMN is an insulated one, placed in the corner of a portico, or inserted in the corner of a building, or even a column that flanks any angle of a polygon.

Attic COLUMN, according to Pliny, is an insulated pilaster having four equal faces, and of the highest proportion.

Canted COLUMNS are those engaged in the four corners of a square pillar, to support four springs of an arch.

Coupled COLUMNS, those disposed two and two, so as almost to touch each other at their bases and capitals.

Doubled COLUMN, one column joined with another in such a manner, that the two shafts penetrate each other with a third of their diameter.

Engaged COLUMN, that which enters in a wall with one third or one fourth of its diameter.

Grouped COLUMNS, those placed on the same pedestal or socle, either by three and three, or four and four.

Insulated COLUMN, one standing free and detached from every other body.

Median COLUMNS, a name given by Vitruvius to the two columns in the middle of a porch, which have their intercolumniation larger than the rest. The term may also be applied to the middle row of columns in a frontispiece adorned with three orders.

Niched COLUMN, that whose shaft enters with half its diameter into a wall, hollowed out for its reception with its plane parallel to the projection of the tore.

COLUMNS with regard to their use, are either, 1. Astronomical columns, such as that at Paris erected for astronomical observations. 2. Chronological column. 3. Funeral column, which generally bears an urn, and has its shaft overspread with symbols of grief and of immortality. 4. Gnomonic column, a cylinder, upon which the hour of the day is represented by the shadow of a style: of these there are two kinds; in the one the style is fixed, and the hour-lines are no more than the projection of a vertical dial upon a cylindrical surface; in the other, the style is moveable, and the hour-lines are drawn to the different heights of the sun in the different seasons of the year. 5. Historical column, that whose shaft is adorned with a basso relievo, running in a spiral line its whole height, and containing the history of some great personage. 6. Hollow column, that which

has a spiral stair-case within-side, for the convenience of ascending to the top. 7. Indicative column, that which serves to shew the tides along the sea-coasts. 8. Instructive column, that which conveys some precept or instruction, such as that raised by the son of Pisistratus at Athens, containing the rules of agriculture. 9. Itinerary column, one with several faces, placed in the crossing of several roads, serving to shew the different routes by the inscriptions engraved upon each of its faces. 10. Lactary column, at Rome, a column, according to Festus, in the herb-market, in the pedestal of which was a cavity, wherein young children, abandoned by their parents, out of poverty or inhumanity, were exposed to be educated at the expence of the public. 11. Legal column, among the Lacedemonians, that erected in a public place, upon which were engraved the fundamental laws of the state. 12. Limitrophous or boundary column, that which shews the limits of a kingdom, or country conquered. Those called the columns or pillars of Hercules, are two very steep mountains in the straits of Gibraltar. 13. Luminous column, one formed in a cylindrical frame, mounted and covered over with oiled paper or gauze, so that lights being disposed in ranks within over each other, the whole appears to be on fire. 14. Manubial column, a column adorned with trophies built in imitation of trees, whereon the spoils of enemies were antiently hung. 15. Memorial column, that raised on occasion of any remarkable event, as the monument in London, built to perpetuate the memory of the burning of that city in 1666. 16. Menian column, any column that supports a balcony or meniana. 17. Military column, a column of marble raised by order of Augustus in the middle of the roman forum, from whence, as a center, the distances of the several cities of the empire were reckoned by other military columns, disposed at equal distances on all the grand roads. 18. Rostral column, that adorned with the peaks or prows of ships, &c. erected either in memory of a naval victory, or in honour of some admiral, &c. 19. Statuary column, that which supports a statue. 20. Symbolical column, that representing by symbols some particular country, or some memorable action. 21. Triumphal column, that erected by the antients in honour of an hero; the joints of the stones or courses of which were covered

vered with as many crowns, as he had made different military expeditions. 22. Zoophoric column, a kind of statuary column, bearing the figure of some animal.

Scenography of a COLUMN. See the article SCENOGRAPHY.

COLUMN, among printers, is half a page, when the page is divided into two parts from top to bottom.

COLUMN in the military art, a long deep file of troops or baggage.

The first and second lines of the army as they are encamped, make generally two columns on a march, filing off either from the right or left: sometimes the army marches in four, six, or eight columns, according as the ground will allow; and each column is led by a general officer.

COLUMNA, in anatomy, a term applied to different parts: thus the *columna nasi*, is the lowest and fleshy part of the nose which forms a part of the septum; and the *columna oris*, is the same with the uvula. See the articles SEPTUM and UVULA.

The *columnæ cordis* are small, long, and round fleshy productions in the ventricles of the heart. See the article HEART.

COLUMNAR, something resembling or consisting of columns. See COLUMN.

COLUMNAR-MARBLE, the same with the basalt. See the article BASALTES.

COLUMNÆA, in botany, a genus of plants of the didynamia-angiospermia class, the flower of which is monopetalous and ringent; the fruit is a globose, bilocular berry, containing numerous oblong seeds.

COLUMNIA, or KOLOMNA, a city of Russia, in the province of Moscow, situated at the confluence of the rivers Moscow and Occa, about forty miles south-east of the city of Moscow: east long. 40°, north lat. 56°.

COLURES, in astronomy and geography, two great circles supposed to intersect each other at right angles in the poles of the world, and to pass through the solstitial and equinoctial points of the ecliptic. That which passes through the two equinoctial points, is called the equinoctial colure, and determines the equinoxes; and the other which passes through the poles of the ecliptic, is called the solstitial colure, because it determines the solstices. See EQUINOX and SOLSTICE.

COLURI, a little island in the gulph of Engia, in the Archipelago, about seven miles south of Athens: of this island

Ajax was sovereign: east longitude 24°, north latitude 38°.

COLUTEA, BASTARD SENA, in botany, a genus of the deadelpia-dicandria class of plants, the flower of which is papilionaceous, and its fruit a very large, broad, inflated, compressed legume, with the superior suture erect, and the interior one gibbous: it contains only one cell, wherein are several seeds of a kidney shape. See plate LXIII. fig. 2.

The leaves, but especially the seeds of the colutea, purge with great violence, and therefore ought only to be administered to strong constitutions, and then with good correctives.

COLYBA, or COLYVA, among the greek christians, is a large dish of boiled wheat garnished with blanched almonds, raisins, and pomegranates, and strewed round with odoriferous herbs, which is offered in honour of the saints at the interment of the dead. The colyva is carried by the sexton or grave-digger, preceded by an attendant bearing two large wooden flambeaux gilt, and adorned with lace and ribbands. He is followed by two waiters loaded with bottles of wine and baskets of fruit, and a third carrying a carpet, which is to be spread over the tomb of the deceased, and to serve as a table-cloth for the funeral entertainment. The priest hath a large share of this collation; and the rest, after the friends of the deceased have feasted on it, is distributed among the poor.

COLYMBUS, DIVER, in ornithology, a genus of anseres, with a subulated, compressed beak, longer than the head, and without teeth: add to this, that the feet are placed very far backward, so as to be fitter for swimming than standing or walking.

To this genus belong the lumme, or mergus maximus; the crested diver, colymbus cristatus vel cornatus; the trapazorola; and the columba groenlandica. See the article LUMME, DIVER, &c.

The crested colymbus, called also the great didapper, or crested loon, is represented in plate XLIV. fig. 5.

COLYVA, or COLYBA. See COLYBA.

COMA, or COMA-VIGIL, a preternatural propensity to sleep, when nevertheless the patient does not sleep, or if he does, awakes immediately without any relief. This disorder is always symptomatic, and often attends acute, burning, and malignant fevers; as also an inflammation of the dura mater, and ushers in a phrenzy.

phrenzy. Sometimes it attends an hemiplegia.

For the cure of the coma-vigil, if the fever has not continued above the third or fourth day, it is expedient to take away a large quantity of blood; then the body, if coëstive, must be opened with clysters, which must not be very acrid; afterwards diluters and retriggerants should be given to moderate the febrile heat, such as absorbent powders, gentle nitrous medicines, taken in a draught with diaphoretic antimony, &c.

COMA-SOMNOLENTUM, is when the patient continues in a profound sleep, and when awaked, immediately relapses, without being able to keep open his eyes. This is a primary disease, and must have a cause which obstructs the passage of the nervous fluid from the cortical part of the brain to the medulla oblongata throughout the whole brain.

A coma-somnolentum, is divided into serous and sanguine. The first requires the natural serous evacuations to be reëstred or promoted. Gouty fits are to be invited. Sternutatories are also of great use, as they discharge the serum thro' the nose, and stimulate the nerves: and when a viscid phlegm offends the stomach, vomits are useful, with powder of squills, or emetic tartar, with a laxative potion. In a sanguine coma somnolentum, when the blood circulates slowly, or stagnates in the head, as in hypochondriac or scorbutic cases, all hot spirituous remedies are as bad as poison: but bleeding, clysters, gentle laxatives, cooling and nervous powders, are useful.

COMA BERENICES, **BERENICE'S HAIR**, in astronomy, a constellation of the northern hemisphere composed of stars, near the lion's tail.

This constellation consists of three stars, according to Ptolemy; of thirteen, according to Tycho; and of forty, in the britannic catalogue.

COMARUM, in botany, a genus of plants of the icofandria-pentagynia class; the flower of which consists of five oblong, acuminate petals, three times less than the cup in which they are inserted: there is no pericarpium, but a scrotiform, fleshy receptacle which contains numerous acuminate seeds.

COMB, an instrument to clean, untangle, and dress flax, wool, hair, &c.

Combs for wool, are prohibited to be imported into Britain.

COMB is also the crest or red-fleshy tuft growing upon a cock's head.

COMB, in a ship, a little piece of timber set under the lower part of the beak-head, near the middle: it has two holes in it, and supplies to the fore-tacks what the chest trees do to the main-tacks, that is, to bring the fore tacks aboard.

Lady's COMB, or **Venus's COMB** in botany, the same with the scan-dix. See the article **SCANDIX**.

Honey-COMB. See **HONEY-COMB**.

COMB-FISH, *pecten*, in the history of shell-fish. See the article **PECTEN**.

COMBAT, in a general sense, denotes an engagement, or a difference decided by way of arms. See the article **BATTLE**.

COMBAT, in our antient law, was a formal trial of some doubtful cause or quarrel by the swords or bastons of two champions. This form of proceeding was very frequent not only in criminal but in civil causes; being built on a presumption, that God would never grant the victory but to him who had the best right. The last trial of this kind in England, was between Donald lord Rae, appellant, and David Ramsay, esq; defendant, in the sixth year of the reign of Charles I. when after many formalities, the matter was referred to the king's pleasure. See **TRIAL** and **CHAMPION**.

COMBATANT, in heraldry, a term for two beasts, as lions, &c. borne in a coat of arms in a fighting posture, with their faces to each other.

COMBINATION, properly denotes an assemblage of several things two by two.

COMBINATION, in mathematics, is the variation or alteration of any number of quantities, letters, sounds, or the like, in all the different manners possible.

F. Truchet, in the memoirs of the french academy, shews that two square pieces, each divided diagonally into two colours, may be combined 64 different ways, so as to form so many different kinds of chequer-work; which appears surprizing enough, when one considers that two letters or figures can only be combined twice. See the article **CHANGES**.

F. Merfenne gives us the combinations of all the notes and sounds of music as far as 64; the sum whereof amounts to 90 figures or places.

Doctrine of COMBINATION. **Prob 1.** Any number of quantities being given, together with the number in each combination, to find the number of combinations.

One

One quantity admits of no combination : two, a and b , only of one combination : of three quantities, abc , there are three combinations, *viz.* ab , ac , bc : of four quantities, there are six combinations, *viz.* ab , ac , ad , bc , bd , cd : of five quantities, there are ten combinations, *viz.* ab , ac , bc , ad , bd , cd , ae , be , ce , de . Hence it appears, that the numbers of combinations proceed as 1. 3. 6. 10. that is, they are triangular numbers, whose sides differ by unity from the number of given quantities. If this then be supposed q , the side of the number of combinations will be $q-1$, and so the number of combinations $\frac{q-1, q+0}{1 \quad 2}$. See the

article TRIANGULAR Numbers.

If three quantities are to be combined, and the number in each combination be three, there will be only one combination abc ; if a fourth be added, four combinations will be found abc , abd , bcd , acd ; if a fifth be added, the combinations will be ten, *viz.* abc , abd , bcd , acd , abe , bde , bce , ace , ade ; if a sixth, the combinations will be twenty, &c. The numbers, therefore, of combinations proceed as 1. 4. 10. 26. &c. that is, they are the first pyramidal triangular numbers, whose side differs by two units from the number of given quantities. Hence if the number of given quantities be q , the side will be $q-2$, and so the number of combinations $\frac{q-2, q-1, q+0}{1 \quad 2 \quad 3}$.

If four quantities are to be combined, we shall find the numbers of combinations to proceed as pyramidal triangular numbers of the second order, 1. 5. 15. 35. &c. whose side differs from the number of quantities by the exponent minus an unit. Wherefore if the number of quantities be q , the side will be $q-3$, and the number of combinations $\frac{q-3, q-2, q-1, q+0}{1 \quad 2 \quad 3 \quad 4}$.

See PYRAMIDAL numbers.

Hence is easily deduced a general rule of determining the number of combinations in any case whatsoever. Suppose, for example, the number of quantities to be combined q , and the exponent of combination n ; the number of combinations will be $\frac{q-n+1, q-n+2, q-n+3, q-n+4}{1 \quad 2 \quad 3 \quad 4}$.

&c. till the number to be added be equal

to n . Take $q=6$ and $n=4$, the number of combinations will be $\frac{6-4+1, 6-4+2, 6-4+3, 6-4+4}{1 \quad 2 \quad 3 \quad 4} = \frac{2 \cdot 3 \cdot 4 \cdot 5}{1 \cdot 2 \cdot 3 \cdot 4} = 5$.

If it be required to know all the possible combinations of the given quantities, beginning with the combinations of the several two's, then proceeding to threes, &c. we must add $\frac{q-1, q+0}{1 \quad 2}$, $\frac{q-2, q-1}{1 \quad 2}$,

$\frac{q+0, q-3, q-2, q-1, q+0}{3 \quad 1 \quad 2 \quad 3 \quad 4}$, &c.

Whence the number of all the possible combinations will be $\frac{q \cdot q-1}{1 \quad 2} + \frac{q \cdot q-1}{1 \quad 2}$

$\frac{q-2}{3} + \frac{q \cdot q-1 \cdot q-2 \cdot q-3}{1 \quad 2 \quad 3 \quad 4} + \frac{q \cdot q-1}{1 \quad 2}$.

which is the sum of the unciae of the binomial raised to the power q , and abridged of the exponent of the power encreased by unity $q+1$. Wherefore since these unciae come out $1+1$ by being raised to the power q ;

and since $1+1$ is equal to 2, $2^q - q - 1$ will be the number of all the possible combinations. For example, if the number of quantities be 5, the number of possible combinations will be $2^5 - 6 = 32 - 6 = 26$.

Prob. 2. Any number of quantities being given, to find the number of all the changes, which these quantities, combined in all the manners possible, can undergo. Let there be two quantities a and b , their variations will be two; consequently, as each of them may be combined with itself, to these there must be added two variations more. Therefore the number of the whole will be $2+2=4$. If there were three quantities, and the exponent of the variation 2, the combinations will be 3, and the changes 3; to wit, ab , ac , bc , and ba , ca , cb ; to which if we add the three combinations of each quantity with itself aa , bb , cc , we shall have the number of changes $3+3+3=9$.

In like manner, it is evident, if the given quantities were 4, and the exponent 2, that the number of combinations will be 6, and the number of changes likewise 6, and the number of combinations of each quantity

quantity with itself 4, and therefore the number of changes 16; if with the same exponent the given quantities were five, the number of changes would be 25; and in general, if the number of the quantities were n , the number of changes would be n^2 .

Suppose the quantities 3, and the exponent of variation 3, the number of changes is found $27=3^3$, viz. *aaa, aab, aba, baa, aac, aca, caa, abb, bab, bba, abc, bac, bca, acb, cab, cba, acc, cac, cca, bbb, bbc, cbb, bcb, bcc, cbc, ccb, ccc*. In like manner it will appear, if the quantities were 4, and the exponent 3, that the number of changes would be $64=4^3$; and in general, if the number of quantities was $=n$, and the exponent 3, the number of changes would be n^3 .

By proceeding in this manner, it will be found, if the number of quantities be n , and the exponent n , that the number of changes would be n^n . Wherefore, if all the antecedents be added, where the exponent is less, the number of all the possible changes will be found $n^n + n^{n-1} + n^{n-2} + n^{n-3} + n^{n-4}$, &c. till the number subtracted from n leaves 1, because the beginning is from single quantities taken once.

Since, then, the number of all possible changes is in a geometrical progression, the first or smallest term of which is n^1 , the largest n^n , and the denominator n ; it will be equal $(n^{n+1} - n) \div (n - 1)$. Suppose $n=4$, the number of all possible variations will be $(4^5 - 4) \div (4 - 1) = \frac{1020}{3}$

$=320$.

Suppose again $n=24$, the number of all the possible variations will be $(24^{25} - 24) \div (24 - 1) = 32009658644406818986777955348250600$ divided by 23 = 1391724288887252999425128493402200. In so many various methods may the 24 letters of the alphabet be varied and combined among themselves.

COMBINATORY, in general, denotes something belonging to combination. See the preceding article.

COMBINATORY DISTILLATION, a method of rectifying spirits, much practised by distillers, by distilling several ingredients along with the spirits: such are alkaline salts, and spirits, and other saline bodies capable of giving the spirits

a good flavour. This method is condemned by Dr. Shaw; since these ingredients mix themselves so intimately with the spirits, as not to be easily separated again: hence, instead of rectifying or improving, they prevent the true and genuine taste of the spirits.

COMBING of wool, in commerce, the drawing wool across the teeth of a card called a comb, to dispose it for spinning.

COMBUST, an appellation given to a planet, when in conjunction with, or not distant above eight degrees and thirty minutes from the sun: some restrain the term combust, to the distance of half their disk.

COME, an appellation by which the small fibres of malt are called. See **MALT**.

COMEDY, is a sort of dramatic poetry which gives a view of common and private life, recommends virtue, and exposes the vices and follies of mankind in a humorous and merry way. Scaliger defines comedy a dramatic poem, representing the business of life, whose event is fortunate and stile familiar. Vossius defines it a dramatic poem, copying the actions of the principal citizens and common people in a familiar stile, and not without mirth and raillery.

Critics are much divided about the nature of comedy. Aristotle calls it an imitation of the worst, or rather, of the lowest class of persons by way of ridicule. Mr. Corneille finds fault with this, and maintains, that the actions of kings themselves may enter comedy, provided they be such as are not very momentuous, nor attended with any considerable danger. Mr. Congreve seems pretty much of the same sentiment. But Mr. Dacier is of a contrary opinion: he maintains, that comedy allows of nothing grave or serious, unless it be turned to ridicule; and that raillery and ridicule are its only proper and genuine marks. Thus different are critics on the nature of comedy: nor are they better agreed concerning the characteristic which distinguishes it from tragedy. Some distinguish it by the lowliness of the subject; others, by the ridiculous light it is set in. According to F. Bossu, comedy differs from tragedy in this, that the comic writer invents both the names of his persons, and the action which he presents; whereas the tragic-writers invent only the latter; the former they are to take from history.

Comedy has parts of quality and parts of quantity. Of the first kind there are four essential, the fable, the manners, the senti-

sentiments, and the diction; to which two are added which only relate to the representation, *viz.* the music and decoration. See FABLE, MANNERS, &c.

The parts of quantity are also four. 1. The entrance. 2. The working up of the plot. 3. The full growth of the plot, or the counter turn. 4. The discovery or unravelling of the plot. These, in the language of the antients, are called the protasis, epitasis, catastasis, and catastrophe. See the articles PROTASIS, EPITASIS, ACT, &c.

With regard to the various revolutions comedy has undergone, it is commonly distinguished into three kinds, *viz.* the antient, the middle, and the new. The antient comedy was sharp, satirical, and extremely abusive; even men of the first rank, if they were suspected of any criminal behaviour, whether the facts were true or false, were brought upon the stage without any disguise, called by their own names, and used as severely as possible. Thus in the comedy of the clouds, Aristophanes brings Socrates in by name. Indeed this liberty of abuse was allowed chiefly to the chorus, and was most used during the democracy of the Athenians; especially in the time of the peloponnesian war. But when the thirty tyrants had seized the government, the middle comedy commenced; for it being no longer safe for the poets to rail at people in authority, and openly to charge magistrates with crimes, they still continued to ridicule the follies and expose the vices of particular persons under fictitious names; by which the persons were so well pointed out, that it was no difficult matter to know them. At length, however, they were obliged, in the reign of Alexander the Great, to repress even this license; and this reformation gave occasion to the new comedy, which only brought upon the stage feigned adventures, and imaginary names.

This last kind alone was received among the Romans, who nevertheless made a new subdivision of it into antient, middle and new, according to the various periods of the commonwealth. Among the antient comedies were reckoned those of Livius Andronicus; among the middle, those of Pacuvius; and among the new ones, those of Terence. They likewise distinguished comedy according to the quality of the persons represented; and the dress they wore, into togatæ, prætextatæ, trabeatæ, and tabernariæ, which

last agrees pretty nearly with our farces. Among us, comedy is distinguished from farce, as the former represents nature as she is, the other distorts and overcharges her. They both paint from the life, but with different views: the one to make nature known, the other to make her ridiculous.

COMERCY, a city of Lorrain, in France, twenty miles west of Nancy: east long.

5° 26', north lat. 48° 45'.

COMES, in zoology, a species of butterfly, with four legs, and erect, roundish wings.

COMET, an opaque, spherical, and solid body like a planet, performing revolutions about the sun in elliptical orbits, which have the sun in one of the foci.

The antients were divided in their opinions concerning them; some considering them as wandering stars; others, as meteors kindled in the atmosphere of the earth, subsisting for a time, and then dissipated; others looked upon them as prodigies. But it is put beyond doubt by the more accurate observations of the late astronomers, that they are a kind of planets. That they are not meteors, is obvious; for if they were, they could not bear that vast heat which some of them in their perihelia receive from the sun. The great comet which appeared in the year 1680, was within a sixth part of the sun's diameter from its surface, and therefore must acquire a degree of heat intense beyond all imagination.

But that comets are not only above the air, but also beyond the moon, is plain; because comets seen from distant places, are observed to be at the same distance from a fixed star which is near them. As for example, the comet which Tycho Brahe observed at Uraniburg, was likewise seen by Hagecius at Prague in Bohemia at the same time; which two places differ six degrees in latitude, and are nearly under the same meridian, and both measured the distance of this comet from the star we call the vultur; that is, how much it was below it towards the horizon, for both the vultur and comet were in the same vertical circle, and both observers found their distances the same, and consequently they both viewed the comet in the same point of the heavens; which could not be, unless it had been higher than the moon.

The figures of comets are observed to be very different, for some of them throw forth beams like hair every way round them, and these are called hairy comets.

Others again have a long beard, or rather a fiery tail, opposite to the region in which the sun is seen; and they are called bearded, or comets with tails. Their magnitude has also been observed to be very different; many of them without the hair, appear no bigger than stars of the first magnitude. But some authors have given us an account of others which were much greater: such was that which appeared in the time of the emperor Nero, which, as Seneca relates, was not inferior in magnitude to the sun itself. In like manner, the comet which Hevelius observed in the year 1652, did not seem to be less than the moon, though it had not so bright a splendor; for it had a pale and dim light, and appeared with a dismal aspect. Most have a dense and dark atmosphere surrounding their bodies, which weakens and blunts the sun's rays; but within it, appears the nucleus or solid body of the comet, which when the clouds are dispersed, gives a splendid and brisk light.

The particulars in which comets differ from planets are, that they move in various directions, some the way with the planets, others the contrary; neither are their motions confined within the zodiac, their orbits admitting of any inclination to the ecliptic whatever. And the eccentricity of their orbits is so very great, that some of the comets perform the greatest part of their motion almost in right lines, tending in their approach to the sun almost directly towards it, after which they pass it; and when they leave it, march off again nearly in a right line till they are out of sight, as if they were hastening back to the fixed stars. As they approach the sun, their motion grows proportionably swifter; for they describe equal areas in equal times about its center as the planets do. Hence it is, that when they are in their perihelia, their motion is immensely swifter than when they are in their aphelia. This will better appear from the following demonstration. Let S (plate XLVI. fig. 2.) be the sun, A P D G the elliptic orbit of a comet, T C E the orbit of the earth. If we should suppose the semi-axis of the comet's orbit to be 100 times greater than the semi-axis of the earth's orbit, or, which is the same, than its mean distance from the sun, that comet would not complete its revolution in less than 1000 years; for the squares of the periodical times of the earth and comet, must

be as the cubes of their mean distances from the sun: and the comet becomes visible only for that part of its period, wherein it descends towards the sun and approaches near the earth, as in F, and then after it has passed its perihelion, constantly rising higher from the sun about G, it will begin to vanish, and will not be visible without a telescope. If the aphelion distance be to the perihelion as 1000 is to one, the velocity of a comet in the perihelion, will bear the same proportion to the velocity at the aphelion. For the area A S B, must be but equal to the area P S D, if the arches A B and P D be described by the comet in equal times, and then the arch P D must be greater than A B, in the same proportion as A S is greater than P S. This is the proportion of their absolute velocities. But their angular velocities about the sun, are in a duplicate proportion of these distances, or as 1000000 to 1. So that while the comet in its perihelion describes one degree with its angular motion, where it ascends to its aphelion, it will describe in an equal time but $\frac{1}{1000000}$ of a degree. Hence then is seen the cause why comets are visible to us for so short a time, and when they disappear, why they are so long before they visit us again. This also destroys the objection against the return of comets drawn from the rarity of their appearance.

As the elliptic orbit of a comet is so very eccentric, that portion of it wherein it becomes visible to us, may pass for a parabola. By considering therefore, that portion as a piece of a parabola near its vertex, the calculation of their motions becomes much easier; and upon that hypothesis Dr. Halley has constructed and calculated a table, by which, whenever a new comet shall appear, it may be determined whether it be any of those which have yet appeared, and consequently its period, and the axis of its orbit be determined, and its return foretold. From this table, it would appear that the comet which was seen in the year 1682, was the same observed before in 1607 and 1531, and was also expected in the year 1758, after a period of seventy-five and seventy-six years alternately; but though a comet was indeed observed in the year 1758, it does not by any means appear to have been that predicted by Dr. Halley, and expected by astronomers, which

which furnishes a great objection to the theory of comets, and the stated and periodical returns of these bodies.

By the same table, it would also appear, that the great comet which was seen in the year 1680, was the same seen in the time of king Henry I. in 1106, and in 531, and in the forty-fourth year before Christ, when Julius Cæsar was murdered. If so, then the period of this comet is about 575 years. There are between twenty and thirty that have appeared since the year 1337, but no two appearances seem to belong to the same comet, except those above-mentioned.

The phenomena of comets which arise from the motion of the earth, agree in a great measure with those of the planets. For instance, those comets which move according to the order of the signs, a little before they disappear, become more than ordinarily slow or retrograde, if the earth at that time be between them and the sun, but more than ordinary swift, if the earth be on the opposite side: and the reverse of this happens to those which move contrary to the order of the signs. This is occasioned by the motion of the earth; for when the earth goes the same way with a comet, but with a swifter motion, the comet seems retrograde; when with a slower motion, the comet's apparent motion becomes slower; and when the earth moves the contrary way, it becomes swifter. See the articles RETROGRADATION and PLANET.

Few comets are to be seen in their access to the sun, but in their recess appear with long fiery tails, pointing directly, or nearly so, towards that part of the heavens which with respect to the comet is opposite to the sun. Some are visible before they reach the sun, and begin to put forth their tails, which at first are short and thin, seldom exceeding fifteen or twenty degrees in length, but grow longer and denser as the comet comes nearer the sun. If the comet passes very near the sun, it then sends forth fiery beams of light every way. After this it puts forth a tail forty, fifty, or sixty degrees long, which, as the comet recedes farther from the sun, continually diminishes both in length and splendor; but is larger and longer at any distance in its recess from the sun, than at an equal distance in its access to it.

In order to account for the formation of the tails of comets, some have supposed that the heads of comets are transparent,

and that their tails are no other than a beam of the sun transmitted through them. But were the heads of comets transparent, they themselves would be scarcely visible. Others, that they arise from the refraction of the rays of light in their way from the comet to us. But if so, then both the planets and fixed stars ought to have tails also. Kepler ascribed the ascent of the tails to the rays of the sun carrying the particles of the comet's atmosphere with them; that is, impelling them into the regions opposite to it. But we have no instance of any thing in nature like this: it is therefore an hypothesis that cannot be supported. Sir Isaac Newton thinks the great splendor and length of the tails, arises from the heat which the sun communicates to the comet as it passes near it. As the ascent of the smoke in a chimney is owing to the impulse of the air with which it is intangled, in like manner, says he, the tail of a comet may rise from the atmosphere thereof into those parts which are opposite to the sun, being carried up by the æther about the comet, rarefied to a very great degree by the heat thereof. This opinion is greatly corroborated by the appearance of the tails; for when accurately observed, they are found not to rise always in a direction precisely opposite to the sun, but to deviate or incline a little from thence towards those parts which the comet has lately left; and not only so, but to be bent into a certain curvature, the extremities of the tails deviating from the true opposition more in proportion than the other parts; and to be more dense, seemingly, and better defined on the convex than on the concave side. And further, that the longer the tail is, the more sensible is the curvature, as being the greatest at the greatest distance from the body of the comet. Upon these accounts Sir Isaac thinks it evident, that the phenomena of the tails of comets depend on the motion of their heads, and that the heads furnish the matter which forms the tails. Mr. Rowning, who is not satisfied with Sir Isaac's opinion, accounts for the tails of comets in the following manner. It is well known, says he, that when the light of the sun passes through the atmosphere of any body, as the earth, that which passes on one side, is by the refraction thereof made to converge towards that which passes on the opposite one; and this convergency is not wholly effected either at the entrance of the light

into the atmosphere, or at its going out; but that beginning at its entrance, it increases in every point of its progress. It is also agreed, that the atmospheres of the comets are very large and dense. He therefore, supposes, that by such time as the light of the sun has passed through a considerable part of the atmosphere of a comet, the rays thereof are so far refracted towards each other, that they now begin sensibly to illuminate it, or rather the vapours floating therein; and so render that part which they have yet to pass through visible to us; and that this portion of the atmosphere of a comet thus illuminated, appears to us in the form of a beam of the sun's light, and passes under the denomination of a comet's tail. This is the hypothesis of Mr. Rowning: how well it answers the phenomena of the tails, may be seen in his system of natural philosophy, part IV. cap. 11.

A late writer supposes comets to be bodies destined to repair the quantities of light and fire incessantly emitted by the sun, and which are scattered and dispersed over the whole system. The large sweeping tails of the comets which extend so many thousand miles; our author thinks well adapted to such a purpose; and as many of those particles of light and fire may be supposed to be driven to a vast distance, it is necessary they should go to the utmost limit of the system to make such a collection. But as our author supposes the velocity of the rays of light to be the cause of the comets, as well as the planets motions, it is not possible a comet should exonerate on the sun's body, the particles of light and fire which he supposes it has collected in the wide expanse, when the comet itself never comes in contact with the sun; nor can those very particles which were before emitted from the sun's body, on the comet's arriving nearer to the sun, quit the cellules of the comet, and continue their motion to the sun, notwithstanding the repulsion of the rays of light.

To determine the apparent place and course of a COMET. One method by which astronomers investigate them in this. They observe what two stars are directly one on one side of the comet, and the other on the other; which is done by holding up a thread between the eye and the two stars, and extending it in such manner, as that it shall seem to cross each star: then they look out two other stars in such situation also; that the comet

shall appear in a line that passes from one to the other, which are found as before. Then they extend a thread upon the celestial globe from one of the two first stars to the other; and another thread from one of the two last stars to the other: and the point on the globe where the threads cross, is the apparent place of the comet at the time the observation was made. This they do daily, and so trace out its apparent course in the heavens.

To determine the parallax of a COMET. See the article PARALLAX.

Trajectory of a COMET. See the article TRAJECTORY.

COMETARIUM, a curious machine exhibiting an idea of the revolution of a comet about the sun. It is contrived in such a manner, as by elliptical wheels to shew the unequal motion of a comet in every part of its orbit. The comet is represented by a small brass ball, carried by a radius vector, or wire, in an elliptic groove about the sun in one of its foci, and the years of its period are shewn by an index moving with an equable motion over a graduated silver circle. See a representation of it in plate XLV. fig. 3. and Martin's Philosophia Britannica, vol. I. p. 140, &c.

When the lid is taken off the box, it appears as follows: NO and QT are the elliptic wheels, turning each other about their foci I and S, by means of a cat gut string in a groove on their edges crossing at K. NO is moved by the circular wheel I, which is itself moved by the wheel C; and this by an endless screw turned by a winch on the outside of the box. The ellipsis PLIM, described about the foci SS, represents the comet's orbit.

COMFREY, the english name of a genus of plants, called by botanists symphytum. See the article SYMPHYTUM.

COMITATUS POSSE. See the article POSSE COMITATUS.

COMITIA, in roman antiquity, an assembly of the people; either in the comitium or campus-martius, for the election of magistrates, or consulting on the important affairs of the republic. See COMITIUM and CAMPUS-MARTIUS.

There were certain days fixed for these assemblies, called *dies comitiales*, marked with a C in Julius Caesar's calendar.

There were three kinds of comitia, viz. curiata, centuriata, and tributa, so distinguished from the manner wherein the people voted, and gave their suffrages,

viz. by curiæ, or parishes, tribes, or centuries. The comitia curiata owe their original to the division which Romulus made of the people into thirty curiæ, which answer in most respects to our parishes. The comitia centuriata were instituted by Servius Tullius. Comitial assemblies held for the election of consuls, were called consular comitia. In like manner the other comitia were named from the officer to be created, whether a tribune, pontif, ædile, or the like. The power of calling these assemblies, belonged at first only to the kings: but on the establishment of the democracy, the same privilege was allowed to most of the chief magistrates, and sometimes to the pontiffs.

COMITIALIS MORBUS, an appellation given to the epilepsy, by reason the comitia of antient Rome were dissolved, if any person in the assembly happened to be taken with this distemper.

COMITIUM, in roman antiquity, a large hall in the forum, where the comitia were ordinarily held. See the articles **FORUM** and **COMITIA**.

This hall was a long time open at top, for which reason the assemblies were often interrupted by bad weather. It was first covered in the time of the second punic war, and according to Rosinus, the consuls and tribunes were not created in the comitium, but in the campus-martius.

COMMA, among grammarians, a point or character marked thus (,), serving to denote a short stop, and to divide the members of a period.

Different authors define and use this point so differently; that it is difficult to ascertain the precise use of it. The ordinary doctrine concerning it, conveys no clear or distinct idea of it; being thus, that it serves to distinguish nouns, verbs, adverbs, and such divisions of a period as are not necessarily joined together: some say indeed, that the comma serves to distinguish those members of a period in each whereof is a verb and the nominative case of a verb. Thus, *though nothing so much gains upon the affections as an extempore eloquence, which we have constantly occasion for, and are obliged to practise every day, we very rarely meet with any who excel in it.*

The comma is made use of to distinguish several nouns, substantives, adjectives, or verbs, not joined by a conjunction in the same member of a period: thus, *words, looks, gesture, and different tones of voice,*

are the means by which mankind communicate their thoughts to each other: or, a man never becomes agreeable in conversation, but by studying the taste, respecting the character, conforming himself to the humour, &c. of those he converses with.

But the comma is omitted when those words are united by a conjunction, as, *good humour and good sense seldom fail to make a man agreeable in conversation.*

COMMA, in music, an interval equal to the difference of the tone major and minor, and expressed by the ratio 81: 80. See the articles **INTERVAL** and **TONE**.

COMMANDING GROUND, in the military art, an eminence overlooking any post, or strong place.

A commanding ground is of three kinds: first, a front ground, being an height, opposite to the face of some post, which plays upon its front. Secondly, a reverse ground, being an eminence that can play upon the back of any post. Thirdly, an enfilade commanding ground, or curtain commanding ground, being an eminence that, with its shot, can scour all the length of a straight line.

COMMANDMENT, in a legal sense, is used variously: sometimes it is taken for the commandment of the king; as when, upon his own motion, and from his own mouth, he orders any person to prison. Sometimes it is used for the commandment of the justices: this commandment is either absolute, or ordinary. Absolute, is when a justice commits a person to prison for contempt, &c. upon his own authority, as a punishment. Ordinary, is where a justice commits a person rather for safe custody than for punishment: the person, thus committed by ordinary commandment, is bailable. In another sense of the word, magistrates may command others to assist them in the execution of their offices, in order to keep the king's peace, &c.

COMMANDMENT is likewise used for the offence of a person that wills or orders another to do some unlawful act, as theft, murder, or the like. To command any one to commit burglary, is felony excluded clergy; and he who commands the doing any act that is unlawful, is accessory to it and all the consequences thereof, if executed in the same manner as commanded; though not, where it varies, or where the commander revokes the command. In trespasses, &c. a master shall be charged with the acts of his servant,

servant, done by his command: however, servants shall not be excused for committing any crime, when they act by command of their masters, who have no such power over them as to enforce such commandments. The commands of infants or feme-coverts are void.

COMMANDRY, a sort of benefice, or certain revenue, belonging to a military order, and conferred on antient knights, who had done services to the order, as the commandries of Malta.

The commandries of Malta are of different kinds: for as the order consists of knights, chaplains, &c. there are peculiar commandries or revenues attached to each; and the knights to whom one of these benefices is given, is called commander.

There are also commandries for the religious in the order of St. Bernard, and St. Anthony. The kings of France have converted several of the hospitals for lepers into commandries of the order of St. Lazarus.

COMMELINA, in botany, a genus of the triandria monogynia class of plants, whose corolla consists of six petals; the exterior three of which are small, oval, and concave, of the dimensions of the perianthium; the three interior and alternate petals are large, roundish, and coloured. The fruit is a naked, roundish capsule, containing three cells, and divided by three valves: the seeds, being two only, are angulated.

COMMEMORATION, in a general sense, the remembrance of any person or thing; or the doing any thing in honour of a person's memory, or in remembrance of any past event. Thus the eucharist is a commemoration of the sufferings of Jesus Christ.

It is a practice among the roman-catholics for dying persons to leave a legacy to the church, for the rehearsing of masses in commemoration of them.

COMMEMORATION is also the name of two religious feasts, otherwise called All-saints and All-souls. See **ALL-SAINTS** and **ALL-SOULS**.

COMMENDAM, in the ecclesiastical law, the trust or administration of the revenues of a benefice, given either to a layman, to hold, by way of *depositum*, for six months, in order to repairs, &c. or to an ecclesiastic, or beneficed person, to perform the pastoral duties thereof, till once the benefice is provided with a regular incumbent.

Commendams were formerly a very laudable institution: for when an elective benefice became vacant, for which the ordinary could not, for some reason, immediately provide, the care of it was recommended to some man of merit, who took upon him the direction of it, till the vacancy was filled up, but enjoyed none of the profits.

At length it became a maxim among the canonists, that a clerk might hold two benefices, the one titular, and the other in commendam: yet still, the commendam was to continue only till other provisions were made; and afterwards, they began to be given for a determinate time.

COMMENDAM, in the church of Rome, is likewise a real title of a regular benefice, such as an abbey or priory, given by the pope to a secular clerk, or even to a layman, with a power to dispose of the fruits thereof during life.

In England, the right of granting benefices in commendam is vested in the crown by a statute of Henry VIII. This right was contested in the reign of king James I. when it was disputed, not only whether the king might grant a commendam, but whether or no they were to be granted without necessity.

COMMENDATORY, in a general sense, something belonging to a commendam.

COMMENDATORY ABBOT. See the article **ABBOT**.

COMMENDATUS, in our old customs, one that lives under the patronage of some great person: hence *commendati homines*, were those who by voluntary homage put themselves under the protection of a superior lord; and *commendati dimidii*, those who had dependance on two several lords, and were to pay each one half of their homage.

COMMENSURABLE, among geometricalians, an appellation given to such quantities as are measured by one and the same common measure: thus if the line

$A \text{-----} a$ be equal to

8, and the line $B \text{-----} b$ equal to

4 inches, these two lines will be commensurable, since the same common measure 2, measures them both.

COMMENSURABLE NUMBERS, whether integers or fractions, are such as can be measured or divided by some other number, without any remainder: such are 12 and 18, as being measured by 6 or 3.

COMMENSURABLE IN POWER, is said of

right-lines, when their squares are measured by one and the same space, or superficies.

COMMENSURABLE SURDS, those that being reduced to their least terms, become true figurative quantities of their kind; and are therefore as a rational quantity to a rational one.

COMMENTARY, or **COMMENT**, in matters of literature, an illustration of the difficult or obscure passages of an author.

It is an observation of Evremond, that commentators usually find beauties, and even doctrines, that the original author never dreamt of.

COMMENTARY, or **COMMENTARIES**, likewise denotes a kind of history, or memoirs of certain transactions, wherein the author had a considerable hand: such are the commentaries of Cæsar.

COMMERCE, a term used for the buying, selling, or bartering of all manner of commodities, in order to profit by the same.

Instead of shewing how commerce flourished, and what encouragement it met with among the Egyptians, Phœnicians, Carthaginians, Greeks, Romans, &c. our labour will be better bestowed in examining upon what footing it stood among our ancestors, and how it is, or ought to be esteemed at present. The large share which the trading part of the nation has in the legislature, evidently proves how high it was valued by our ancestors: for whilst one, or at the utmost two members were thought sufficient to represent a whole county in parliament, most boroughs send an equal number of burgesses to take care of their trading interest; so that these last amount to 334, whereas the knights for the counties are only 80, and the citizens for the cities 50. Great traders have likewise been distinguished by particular marks of honour. They have been created knights, knights of the Garter and Bath, bannerets, baronets, barons and earls; which sufficiently proves, that trading was not only formerly, but is, at present, thought to be of the greatest consequence to the nation; and never did, or can, by our laws and customs, detract from any man or family; but, on the contrary, that some of the best houses among the nobility are the descendants of great traders: thus the late earl of Haversham was originally a merchant, the present earl of Tilsney's grandfather the same; as was the

great-grandfather of the present duke of Bedford, and numberless others. And why should not commerce, as well as law and divinity, or the sword, be a road to the highest honour? It is prudence and activity that distinguishes a man from the common herd of mankind; and if he who saves a town, or a body of troops, be rewarded with honours, is not just, that the man who establishes new manufactures, or branches of trade, whereby thousands are not only maintained but made happy, should be honoured by his prince, and respected by his fellow-subjects?

As to the great advantages of commerce, may it not be deemed the basis of civil society, and the most necessary principle to unite all men of whatever country or condition? Is it not an unexhaustible source of plenty to all the world? By it, the mercantile people of all nations seem to be but one body incorporated; the riches of every trading town circulate into the hands of poor and industrious mechanics; and the necessities and conveniencies of one place supplied from the most distant shores of the East and West Indies. Without commerce, the greatest states make but a poor figure; being neglected and despised by their neighbours, and unable to provide for their numerous poor at home: whereas where commerce flourishes, these add grandeur to the state, and the merchants live like princes, and at the same time provide the sinews of war against the most daring attacks of their enemies.

The cities of Venice and Genoa have been raised merely by commerce; and to its decay, may be ascribed the diminution of their influence and power. So long as the counts of Flanders caressed the woollen-manufacturers, nothing could compare to the wealth of the cities of Bruges and Ghent: whereas the workmen, when loaded with impositions and taxes, together with their manufactures, carried riches and wealth to England and Antwerp. Holland receives from, and sends ambassadors to, crowned heads. It ranks with the most distinguished states, and is behind none of them for the plenty it enjoys both of the necessary and the agreeable, for the boldness of its enterprizes, and the wisdom of its government. And what are the Dutch but a set of merchants, who take a pride in being such? Since the spirit of commerce has spread itself over that little corner of the world, it has assumed a new face; the waters

waters have been carried off; the grounds of their habitations are daily raised, and rendered firmer and firmer; their towns are become models of neatness and convenience; and the draining of their lands has made way for gardening and husbandry. As to England, the convenience and multitude of its ports, the goodness of its commodities, and the industry and ingenuity of its workmen, have established its trade so as to admit of no rival but the Dutch. England trades in all parts of the world, nor does any nation drive such a trade as she does with her own commodities; for the dutch trade consists chiefly in the transportation of foreign goods from one country to another. Not only at London, where the great trading companies are established, but at Bristol, Liverpool, &c. and all over the kingdom, does commerce exert its kindly influence: for not to mention the vast number of merchants, manufacturers, and other persons immediately engaged in trade, does not the gardener, the farmer, the grazier, the landed gentleman, and even the nobleman in a manner live by it; nay, is it not the most solid support of the prince, and of the state itself?

Considering, therefore, the vast importance of this employment, it is no wonder that the nations of Europe seem to vie with each other, which shall give it the greatest encouragement; and to the honour of our government it must be allowed, that, in this respect, Britain yields to none of them. Bounties, drawbacks, prohibitions, &c. and even the establishment of trading companies, with exclusive privileges; all have this great and important object in view. See the articles, BOUNTY, DRAWBACK, &c.

As to the branches of commerce treated of in this dictionary, they are very numerous, but may be arranged under these heads; 1. Those which are merely mercantile, or between merchant and merchant: such are bills of exchange, accounts of sales, company-partnership, factor, supercargo, insurance, book-keeping, &c. 2. Those relative to shipping, as average, barratry, bottomry, bill of lading, charter-party, freight, &c. 3. Those relating to exportation and importation, as bounty, drawback, duties, customs, board of trade and plantation, &c. 4. Such as regard manufactures, as cloth, linen, stuffs, hats, lace,

&c. and hence woollen-draper, linen-draper, &c.

COMMUNATORY, an appellation given to whatever threatens punishment, or some penalty: such is that part of a felon's sentence of banishment, which makes it death if he return before a certain time.

COMMUNITION, denotes the breaking, or rather grinding, a body to very small particles.

COMMISSARY, in the ecclesiastical law, an officer of the bishop, who exercises spiritual jurisdiction in places of a diocese so far from the episcopal see, that the chancellor cannot call the people to the bishop's principal consistory court, without giving them too much inconvenience.

In Scotland, these commissaries are still continued, notwithstanding episcopacy is now no more.

COMMISSARY, in a military sense, is of three sorts.

COMMISSARY general of the musters, an officer appointed to muster the army, as often as the general thinks proper, in order to know the strength of each regiment and company, to receive and inspect the muster-rolls, and to keep an exact state of the strength of the army.

COMMISSARY general of stores, an officer in the artillery, who has the charge of all the stores, for which he is accountable to the office of ordnance.

COMMISSARY general of provisions, an officer who has the inspection of the bread, and provisions of the army.

COMMISSION, in common law, the warrant or letters-patent which all persons, exercising jurisdiction, have to empower them to hear or determine any cause or suit: as the commission of the judges, &c. Most of the great officers judicial and ministerial of the realm, are made also by commission; by means of commission, oaths, cognizance of fines, answers in chancery, &c. are taken; witnesses examined, offices found, &c.

COMMISSION of anticipation, was a commission formerly issued under the great seal, to collect a subsidy before the day.

COMMISSION of association, was a commission under the great seal, to associate two or more learned persons with the justices in the circuits and counties of Wales.

COMMISSION of bankruptcy, is the commission that issues from the lord chancellor,

- cellor, on a person's becoming a bankrupt within any of the statutes, directed to certain commissioners appointed to examine into it, and to secure the bankrupt's lands and effects, for the satisfaction of his creditors. See **BANKRUPT**.
- COMMISSION of charitable uses** issues out of the chancery, directed to the bishop and others of the diocese, where any lands given towards charitable uses are misapplied, &c. in order to inquire into and redress the abuse.
- COMMISSION of delegates**, a commission under the great seal, directed to certain persons, usually two or three temporal lords, as many bishops, and two judges of the law, authorising them to sit upon an appeal to the king, in the court of chancery, from a sentence given by the archbishop in any ecclesiastical cause.
- COMMISSION of lunacy** issues out of the court of chancery, to inquire whether a person represented to be a lunatic be so or not.
- COMMISSION of peace**. See the article **JUSTICES of the peace**.
- COMMISSION of rebellion**, generally termed a *writ of rebellion*, issues where a person, after proclamation made by the sheriff, on a process out of the chancery or exchequer, required, upon pain of his allegiance, to present himself to the court by a day assigned, neglects to appear.
- COMMISSION of sewers**, is a commission directed to certain persons, to inspect and see drains and ditches well kept in the marshy and fenny parts of England, for the better conveying of water into the sea, and preserving the grass on the land. See the article **SEWER**.
- COMMISSION OFFICERS**. See the article **OFFICER**.
- COMMISSION, in commerce**. See the article **FACTORAGE**.
- COMMISSIONER**, a person authorised by commission, letters-patent, or other lawful warrant, to examine any matters, or execute any public office, &c. See **COMMISSION and WARRANT**. Besides those relating to judicial proceedings, there are
- COMMISSIONERS of the customs**. See the article **CUSTOMS**.
- COMMISSIONERS of excise**. See **EXCISE**.
- COMMISSIONERS of the navy**. See the article **NAVY**.
- Lords COMMISSIONERS of the treasury**. See **TREASURY and EXCHEQUER**.
- There are also commissioners of hawkers and pedlars, commissioners of alienation, commissioners of the stamps, &c.
- COMMISSUM-FIDEI, or FIDEI COMMISSUM**. See **FIDEI COMMISSUM**.
- COMMISSURE, commissura**, a word used by several authors for the small pores of any body, or the little clefts, cavities, or interstices, which are between the particles of any body, especially when the particles are broadish and flatish, and lie contiguous to one another like very thin plates. See the article **PORE, &c.**
- COMMISSURE, in architecture, &c.** the joint of two stones, or the application of the side of one to that of the other.
- COMMITMENT**, in law, the sending of a person, charged with some crime, to prison, by warrant, or order. A commitment may be made by the king and council, by the judges of the law, the justices of peace, or other magistrate, who have authority by the laws and statutes of the realm so to do. Every commitment should be made by warrant under the hand and seal of the party committing, and the cause of commitment is to be expressed in the warrant. The terms of it must also require the criminal to be kept in custody till discharged according to due course of law, &c.
- COMMITTEE**, one or more persons, to whom the consideration or ordering of a matter is referred, either by some court, or by the consent of parties, to whom it belongs.
- COMMITTEE of the king**, is used, in our old customs, for the widow of the king's tenant, committed, by the antient laws of the realm, to the king's care and protection.
- COMMITTEE of parliament**, a certain number of members appointed by the house, for the examination of a bill, making report of an inquiry, process of the house, &c. When a parliament is called, and the speaker and members have taken the oaths, there are committees appointed to sit on certain days, *viz.* the committee of privileges and elections, of religion, of trade, &c. which are standing committees. Sometimes the whole house resolves itself into a committee, on which occasion each person has a right to speak and reply as often as he pleases, which is not the case when a house is not in a committee.
- COMMODATE, commodatum**, among civilians, differ only from a loan, as things lent

lent may be returned in kind, though not in identity ; which is otherwise in regard to the commodate.

COMMODITY, in a general sense, denotes all sorts of wares and merchandises whatsoever that a person deals or trades in. See the article **COMMERCE**.

Staple Commodities, such wares and merchandises as are commonly and readily sold in a market, or exported abroad ; being, for the most part, the proper produce or manufacture of the country.

COMMODORE, in maritime affairs, an officer of the british navy, commissioned by the lords of the admiralty, or by an admiral, to command a squadron of men of war in chief.

COMMON, something that belongs to all alike, in contradistinction to proper, peculiar, &c. Thus the earth is said to be our common mother.

COMMON Bench, a name by which the court of common pleas was antiently called. See the article **COMMON PLEAS**.

COMMON COUNCIL. See **COUNCIL**.

COMMON DUCT, in anatomy. See the article **DUCT**.

COMMON HUNT, the chief huntsman belonging to the lord mayor and aldermen of London.

COMMON LAW, that body of rules received as law in England, before any statute was enacted in parliament to alter the same.

The common law is grounded upon the general customs of the realm, including the law of nature, the law of God, and the principles and maxims of law : it is also founded on reason, as said to be the perfection of reason, acquired by long study, observation, and experience, and refined by the learned in all ages. It may likewise be said to be the common birth-right that the subject has for the safeguard and defence not only of his goods, lands, and revenues, but of his wife, children, life, fame, &c. Our common law, it is said, after the heptarchy, was collected together into a body, by divers of our antient kings, who commanded, that it should be observed through the kingdom ; and it was therefore called common law, because it was common to the whole nation, and before only affected certain parts thereof ; being antiently called the sole-right, that is, the right of the people. See the article **LAW**.

COMMON PLACE BOOK, *adversaria*, among the learned, denotes a register of what things occur, worthy to be noted in the

course of a man's study, so disposed, as that among a number of subjects, any one may be easily found. Several persons have their several methods of ordering them ; but that which is best recommended, is Mr. Locke's method, which he has published in a letter to Mr. Toisnard, determined thereto by the great convenience and advantage he had found from it, in twenty years experience. The substance of this method is as follows.

The first page of the book, or, for more room, the two first pages fronting each other, are to serve for a kind of index to the whole, and contain references to every place or matter therein : in the commodious contrivance of this, so as it may admit of a sufficient variety of materials, without confusion, all the secret of the method consists. The manner of it, as laid down by Mr. Locke, will be conceived from the following specimen, wherein what is to be done in the book, for all the letters of the alphabet, is here shewn in the first four :

| | |
|---|---------|
| A | a |
| | e |
| | i |
| | o |
| | u |
| B | a |
| | e 2. 3. |
| | i |
| | o |
| | u |
| C | a |
| | e |
| | i |
| | o |
| | u |
| D | a |
| | e |
| | i |
| | o |
| | u |

The index of the common place book being thus formed, it is ready for the taking down any thing therein.

In order to this, consider to what head the thing you would enter is most naturally referred ; and under which one would be led to look for such a thing : in this head or word regard is had to the initial letter, and the first vowel that follows

lows it; which are the characteristic letters whereon all the use of the index depends.

Suppose, *e. g.* I would enter down a passage that refers to the head *beauty*; B, I consider, is the initial letter, and *e* the first vowel: then, looking upon the index for the partition B, and therein the line *e* (which is the place for all words whose letter is B, and the first vowel *e*; as *beauty*, *beneficence*, *bread*, *bleeding*, *blemishes*, &c.) and, finding no numbers already wrote to direct me to any page of the book where words of that characteristic have been entered, I turn forward to the first blank page I find, which in a fresh book, as this is supposed to be, will be page 2, and here write what I have occasion for on the head *beauty*; beginning the head in the margin, and indenting all the other subservient lines, that the head may stand out and shew itself: this done, I enter the page where it is wrote, *viz.* 2 in the space *Be*; from which time the class *Be* becomes wholly in possession of the 2d and third pages, which are assigned to letters of this characteristic.

Note, if the head be a monosyllable beginning with a vowel, the vowel is at the same time both the initial letter and the characteristic vowel: thus, the word *art* is to be wrote in *A a*. Mr. Locke omits three letters of the alphabet in his index, *viz.* K, Y, and W, which are supplied by C, I, and U, equivalent to them: and as for Q, since it is always followed by an *u*, he puts it in the first place of Z; and so has no Z *u*, which is a characteristic that very rarely occurs. By thus making Q the last of the index, its regularity is preserved, without diminishing its extent. Others choose to retain the class Z *u*, and assign a place for Q *u*, below the index.

If any imagine these hundred classes are not sufficient to comprehend all kinds of subjects without confusion, he may follow the same method, and yet augment the number to 500, by taking in one more characteristic to them.

But the inventor assures us, that in all his collections, for a long series of years, he never found any deficiency in the index, as above laid down.

Dr. Felton, in his Introduction to the Classics, ridicules the practice of common-placing, with more wit, however, we think, than argument; for if a common place book be well contrived, if the

passages taken down are dispersed in a regular manner, the expedient must certainly be of great service. Few readers are capable of remembering all the beautiful sentiments and reflexions that are to be met with in an author; a common-place book, therefore, is a repository, where fine observations upon all subjects are so ranged, that the reader may have recourse to them on all occasions.

COMMON PLEAS is one of the king's courts now held constantly in Westminster hall; but in former times was moveable.

All civil causes, as well real as personal, are, or were formerly, tried in this court, according to the strict law of the land. In personal and mixed actions it has a concurrent jurisdiction with the king's bench, but has no cognizance of pleas of the crown. The actions belonging to the court of common pleas come thither by original, as assumpsits and outlawries; or by privilege, or attachment for or against privileged persons; or out of inferior courts, not of record, by pone, recordari, accedas ad curiam, writ of false judgment, &c. The chief judge of this court is called lord chief justice of the common pleas, who is assisted by three other judges: the other officers of the court are the custos brevium, who is the chief clerk; three prothonotaries, and their secondaries; the clerk of the warrants, clerk of the essoins, fourteen filazers, four exigntors, a clerk of the juries, the chi-rographer, the clerk of the king's silver, clerk of the treasury, clerk of the seal, clerk of the outlawries, clerk of the enrolment of fines and recoveries, and clerk of the errors. See the article CUSTOD BREVIUM, &c.

COMMON, in law, that soil, the use of which is common to this or that town or lordship. There is common of pasture for cattle, and also common of fishing, common of estovers, common of turbary, &c.

COMMON of pasture is divided into, 1. Common in gross, where a person by deed grants to another to have common alone, without any lands or tenements in the land of the granter. 2. Common appendant, a right belonging to a man's arable lands, of putting beasts commonable, such as horses, oxen, sheep, &c. into another's ground. 3. Common appurtenant, what belongs to an estate for all manner of beasts, commonable, or not so: common appurtenant may be severed from the land whereto it is belongi g.

but not common appendant; and the one may pertain to a house, pasture, &c. though not the other. 4. Common per cause de vicinage, because of neighbourhood; a liberty that the tenants of one lord, in one town, have to common with tenants of another lord, in another town. Those that claim this kind of common, may not put their cattle in the common of the other lord, for then they are distainable; but turning them into their own fields, if they stray into the neighbour-common they must be suffered.

COMMON of estovers signifies a right of taking wood out of another person's woods, for house-bote, plough-bote, and hay-bote. If a tenant take more house-bote, &c. than is needful, he may be punished for it as a waste: and where a person has this common, if the owner of the land cuts down all the wood, so that there is none left for him, he may bring assise of estovers, or action in the case.

COMMON of piscary signifies a liberty of fishing in another's water: though common of fishing to exclude the owner of the soil, is against law; yet a person by prescription may have a separate right of fishing in a water, and the owner be excluded, as one may grant such right without granting the soil or the water.

COMMON of turbary signifies a licence to dig turf on the ground of another, or in the lord's waste. It is appendant, or appurtenant to a house, but not to lands, and it gives no right to the land whence it is taken.

COMMON DAY, in plea of land, signifies an ordinary day in court, as in eight days of hiliary, from the day of easter in fifteen days.

COMMON INTENDMENT, a common meaning of any thing, without tracing it to any foreign, remote, or particular sense. Hence bar to common interdictment, is a general bar, which commonly disables the plaintiff's declaration. There are several cases where it takes place in our law.

COMMON PRAYER is the liturgy in the church of England. Clergymen are to use the public form of prayers prescribed by the Book of Common Prayer; and refusing to do so, or using any other public prayers, are punishable by 1 Eliz. c. ii.

COMMON, in grammar, denotes the gender of nouns, which are equally applicable to both sexes: thus *parens*, a parent, is of the common gender.

COMMON, in geometry, is applied to an

angle, line, or the like, which belongs equally to two figures.

COMMON DIVISOR, a quantity or number which exactly divides two or more other quantities or numbers, without leaving any remainder.

COMMON measure, is such a number as exactly measures two or more numbers, without a remainder.

Greatest COMMON measure, of two or more numbers, is the greatest number that can measure them; as 4 is the greatest common measure of 8 and 12.

COMMON ray, in optics, is a right line drawn from the point of concurrence of the too optical axes through the middle of the right line, passing through the center of the pupil of the eye.

COMMON object. See the article OBJECT.

COMMON sensory. See the article SENSORY.

COMMONER, or **GENTLEMAN COMMONER**, in the universities, a student entered in a certain rank.

COMMONS, or **HOUSE OF COMMONS**, a denomination given to the lower house of parliament. See PARLIAMENT.

COMMONS, or **COMMONALTY**, likewise signifies the whole body of the people under the degree of a baron, whether knights, gentlemen, burgesses, yeomen, &c.

Dofors COMMONS. See COLLEGE of civilians.

COMMONS is also used for the stated public diet of some society, as a college, the inns of court, &c. to which all the members are obliged to contribute, whether they attend or not.

COMMONWEALTH, the same with republic. See the article REPUBLIC.

COMMOTE, in political geography, the half of a cantred. See CANTRED.

COMMOTION, an intestine motion in the parts of any thing.

In medicine the term is applied to a blow or shake of the brain. Thus a fall occasions a commotion, producing sometimes a contrainfure, and at other times a rupture of the vessels, and an aposthume by shaking the whole mass of the brain.

COMMUNAM APPROPRIARE, in law. See the article APPROPRIARE.

COMMUNIBUS LOCIS, a latin term frequently used by philosophical writers, implying some medium or common relation between several places. Thus Dr. Keil supposes the ocean to be one quarter of a mile deep *communibus locis*, that is at a medium, or taking one place with another.

COMMUNIBUS ANNIS has the same meaning with regard to time, that *communibus locis* has with regard to places.

COMMUNICATING, in divinity, the act of receiving the sacrament, or communion. See **COMMUNION**.

Protestants, as well as the greek church, communicate under both kinds; but the papists deny the cup to the laity.

COMMUNICATION, in a general sense, the act of imparting something to another.

COMMUNICATION is also used for the connection of one thing with another, or the passage from one place to another: thus a gallery is a communication between two apartments.

COMMUNICATION of idioms, in theology, the act of imparting the attributes of one of the natures in Jesus Christ to the other.

It is by this communication that we say God suffered, and died, &c. which, strictly speaking, is only understood of the human nature; and is wholly founded on the union of the two natures in the person of Christ.

The lutherans carry the communication of idioms so far as to say, that Jesus Christ is not only in his divine nature, and by reason of his divine person, but also, really and properly, in his humanity, immortal, immense, &c.

COMMUNICATION of motion, the act whereby a body at rest is put into motion by a moving body; or, it is the acceleration of motion in a body already moving.

Sir Isaac Newton demonstrates, that action and re-action are equal and opposite; so that one body striking against another, and thereby occasioning a change in its motion, does in itself undergo the same change in its own motion the contrary way. Whence a moving body, striking directly against another at rest, loses as much of its motion as it communicates to the other, and they will proceed with the same velocity as if grown into one mass.

If, therefore, the body in motion be triple that at rest, against which it strikes, it will lose a fourth part of its motion; and whereas, before the stroke, it would have run over, *v. g.* a line of 40 feet in a given time, it will only run over 30 after it; having lost a fourth part of its velocity.

If a moving body strike another already in motion, the first will augment the

velocity of the latter; but will lose less of its own motion, than if the latter had been absolutely at rest. Thus, if a body in motion be triple of another at rest, and strike against it with 24 degrees of motion, it will communicate 6 degrees of its motion to the other, and retain 18 itself: whereas if the other had already 4 degrees of motion, the first would only communicate 3, and retain 21; since those 3 were sufficient, in regard to the inequality of the bodies, to make them proceed with equal velocity.

After the same manner may be determined the other laws of communication of motion in bodies perfectly hard and void of all elasticity: but all hard bodies, that we know of, have an elastic power, and the laws are different, and much more intire in elastic bodies. See the articles **ELASTICITY** and **PERCUSSION**. If a body happen to decline out of the way, when moved by another, so as to leave a free passage to the body by which it was moved, yet that will only proceed with the velocity which it had after its communication to the other, and not with that it had before; it being a rule, that every thing endeavours to persevere, not in the state wherein it was formerly, but in that wherein it is at that juncture. Therefore a body that has already lost part of its motion, by its meeting with another, may still lose more by a second, and a third, so as, at length, to become perfectly quiet.

Hence, if two unequal homogeneous bodies move in a right line with the same velocity, the greatest must persevere in motion longer than the smaller; for the motions of bodies are as their masses: but each communicates of its motion to the circumjacent bodies which touch its surface: the larger body, therefore, tho' it has much more surface than the smaller, yet having less in proportion to its mass or quantity of matter than the smaller, will lose a less proportion of its motion, every moment, than the smaller.

Bridge of COMMUNICATION. See the article **BRIDGE**.

Lines of COMMUNICATION, in military matters, trenches made to continue and preserve a safe correspondence between two forts or posts; or at a siege, between two approaches, that they may relieve one another.

COMMUNION, in matters of religion, the being united in doctrine and discipline;

pline; in which sense of the word, different churches are said to hold communion with each other.

In the primitive christian church, every bishop was obliged, after his ordination, to send circular letters to foreign churches, to signify that he was in communion with them. The three grand communions into which the christian church is at present divided, is that of the church of Rome, the greek church, and the protestant church: but originally all christians were in communion with each other, having one common faith and discipline.

COMMUNION is also used for the act of communicating in the sacrament of the eucharist, or the Lord's supper.

This sacrament was instituted by Christ himself, and the administration of it committed by him to his apostles, and to their ordinary successors. The sacramental elements were to be consecrated with solemn prayers and blessings, by the bishop or president, and then delivered by the deacons to the people, as well those who were absent, as those present. In the beginning of christianity, the whole body of christians used constantly to meet together at the Lord's table, on all their public assemblies; their sacramental wine was usually mixed and diluted with water; and during the time of administration, they sung hymns and psalms, particularly the 23d psalm.

In the church of Rome, the priest only has the privilege of communicating in both kinds, whereas the laity communicate only under one: the taking of the cup from the laity, was enjoined by a decree of the council of Constance in the year 1414. The roman catholics pay the most superstitious regard to the consecrated elements. In the greek church, the laity, as well as the clergy, receive the communion in both kinds: but their devotion, at the celebration of the eucharist, is excessive.

COMMUNION-SERVICE, in the liturgy of the church of England, the office for the administration of the holy sacrament, extracted from several antient liturgies, as those of St. Basil, St. Ambrose, &c.

By the last rubric, part of this service is appointed to be read every Sunday and holiday, after the morning prayer, even though there be no communicants.

COMMUNION-TABLE, that whereon the elements of bread and wine, used in communicating, or partaking of the holy sacrament, are placed.

At the time of the reformation, a dispute arose in England, whether the communion tables of the altar fashion, which had been used in popish times, and on which masses had been celebrated, should be still continued; and it was ordered by the king and council, that they should be pulled down. On this there arose another dispute, *viz.* whether the new communion-tables should be placed altar-wise, or in the same place and situation with the former altars? And by an injunction of queen Elizabeth it was ordered, that holy tables should be decently made, and placed in the place where the altars had stood; that is, at the upper end of the chancel, next the wall; where they stand to this day.

COMMUNIS, **COMMON**, is an appellation chiefly used by anatomists; in whose writings we meet with *communis capsula*, *communis ductus*, *communis musculus*, &c.

COMMUNITY, a society of men living in the same place, under the same laws, the same regulations, and the same customs.

Communities are of two kinds, ecclesiastic or laic. The first are either secular, as chapters of cathedral and collegiate churches; or regular, as convents, monasteries, &c.

Lay communities are of various sorts, some contracted by a fixed abode of a year and a day in the same place; others formed by the discharge of the same office, the profession of the same art, or the attending the same place of worship, as those of parishes, fraternities, &c. Accordingly the word is commonly understood of pious foundations, for the support of several persons either in a secular or regular life, as convents, abbeys, colleges, seminaries, hospitals, inns.

COMMUNITY, in the french law, denotes the joint property in goods between the husband and wife; the effects of which is, that they are equally intitled to all moveable goods, and all immoveable estates acquired during the marriage, and equally liable to all debts contracted before or under marriage.

COMMUNITY continued, in the french law, is that which subsists between the survivor of two persons joined in marriage, and the minor children of that marriage, when the survivor has not made an inventory of the effects in possession during marriage.

COMMUNITY tacit, is that contracted between several persons by the mere mingling

ling of their effects; provided they have lived together a year and a day. This community takes place only between children and a father or mother who survives, when no inventory of goods has been taken.

COMMUTATION, in astronomy. The angle of commutation is the distance between the sun's true place seen from the earth, and the place of a planet, reduced to the ecliptic. It is found by subtracting the sun's true place from the heliocentric place of the planet. See **HELIOCENTRIC**.

COMMUTATION, in law, the change of a penalty or punishment from a greater to a less; as when death is commuted for banishment, &c.

COMORIN, or **CAPE COMORIN**, the most southerly promontory of the higher India, lying north west of the island of Ceylon.

COMORRA, a city of Hungary, situated on the Danube, at the end of the island of Schut, thirty-three miles south-east of Presburg: east long. $18^{\circ} 16'$, north lat. $48^{\circ} 14'$.

COMPACT, in physiology, is said of bodies which are of a close, dense, and heavy texture, with few pores, and they very small.

COMPACT is also the name of a famous bull confirmed by pope Paul IV. by virtue of which, cardinals are restricted to confer benefices in their natural state; that is, regular benefices on regulars, &c.

COMPANY, in general, denotes a number of people met together in the same place, and about the same design. With respect, however, to matters of pleasure or diversion, instead of company, we make use of the terms *party* or *match*.

COMPANY, in a commercial sense, is a society of merchants, mechanics, or other traders, joined together in one common interest.

When there are only two or three joined in this manner, it is called a partnership; the term *company* being restrained to societies consisting of a considerable number of members, associated together by a charter obtained from the prince.

The mechanics of all corporations, or towns incorporated, are thus erected into companies, which have charters of privileges and large immunities. Those of London are very numerous. The mercers were incorporated in the 17th of king Richard II. in the year 1393; the grocers, in the 20th Edward III. *ann.* 1345; the drapers, in the 17th of Henry VI. *ann.* 1430; the fishmongers, in the

28th of Henry VIII. *ann.* 1536; the goldsmiths, in the 26th of Richard II. *ann.* 1392; the skinners, in the 11th of Edward III. *ann.* 1327; the merchant-tailors, in 17th Henry VII. *ann.* 1501; the haberdashers, or hurrers, in 26th Henry VI. *ann.* 1447, and 17th Henry VII. *ann.* 1501; the salters, in 20th Henry VIII. *ann.* 1530; the ironmongers, in 3d Edward IV. *ann.* 1462; the vintners, in the reign of Edward III. and 15th Henry VI. and the clothiers, or cloth-workers, in 22d Henry VIII.

Besides these, which are the twelve principal companies of London, there are other very considerable ones; as the dyers, brewers, leather-sellers, pewterers, barbers, surgeons, armourers, white-bakers, wax-chandlers, tallow-chandlers, cutlers, girdlers, butchers, saddlers, carpenters, cord-wainers, painters, curriers, masons, plumbers, innholders, founders, imbroiderers, poulterers, cooks, coopers, bricklayers, and tylers; also bowyers, fletchers, black-smiths, joiners, plaisterers, weavers, fruiterers, scrivener, bottle-makers, and horners; likewise stationers, marblers, wool packers, farriers, paviors, lorimers or loriners, brown-bakers, woodmongers, upholsterers, turners, glaziers, clerks, watermen, apothecaries, and throwsters.

All these are fraternities, and most of them incorporated by charter, for carrying on and improving the several manufactures signified by their names. It now remains, that we give some account of the principal companies of merchants, some of which trade with joint stocks, and all of them enjoy by charter many exclusive privileges; for however injurious these companies may, at this time of day, be reckoned to the nation in general, yet it is certain, that they were the original parents of all our foreign commerce; private traders upon their own bottom being discouraged from hazarding their fortunes in foreign countries, till the methods of traffic had been settled by joint-stock companies: and from this very principle it is, that we find several nations at present endeavouring to extend their trade by the same means.

The most antient trading company, in Britain, is the *Hamburgh company*, originally called merchants of the *Raple*, and afterwards merchant adventurers; they were incorporated by king Edward IV. from which time they traded with success till the reign of queen Elizabeth, who,

who, for a farther encouragement of their industry, not only confirmed, but enlarged their privileges. However, it ought to be observed, that this trade is now open to private merchants, upon paying a very small sum to the company. The company of this kind, next incorporated, was that of the Russia-merchants; who having improved their trade and commerce in those remote parts, were incorporated by Edward VI. greatly encouraged by queen Mary, and had their confirmation, with an enlargement of their privileges, from queen Elizabeth. This company is not very considerable at present; the trade of those parts being mostly carried on by private merchants, on paying the sum of 5*l*. to the company.

The Eastland-company, formerly called merchants of Elbin, were incorporated by queen Elizabeth, and by her greatly encouraged; but, like the former company, it is now become inconsiderable, the trade to Norway and Sweden being laid open by act of parliament.

The Turkey, or Levant-company, was likewise incorporated by the same prince, and its charter confirmed and enlarged by king James I. who impowered them to trade to the Levant, or eastern parts of the Mediterranean; particularly to Smyrna, Aleppo, Alexandria, Grand-Cairo, and the other parts of the turkish dominions. But this trade is now also laid open to private merchants, upon paying a small consideration.

The next in order is the East-India-company, first incorporated in the year 1600, and impowered to trade to all countries lying eastward of the cape of Good Hope. Towards the end of king William's reign, an act of parliament passed, granting all private merchants, who should raise a certain sum for the supply of the government, the privilege of trading to these parts: accordingly, a great many subscribed, and were called the new East-India company; which soon found it necessary to unite with the old one, and trade with one joint stock: since which time, they have been stiled the united East-India-company; and are, at present, in a flourishing condition, and in possession of many considerable forts and factories on the coast of Malabar, the Coromandel-coast, the bay of Bengal, &c.

The royal African-company was first erected in the year 1661, with an exclu-

sive privilege to trade from cape Blanc, on the coast of Africa, in 20° north latitude, as far as the cape of Good Hope. But this trade is now laid open by act of parliament. See the article AFRICAN. The Eastland-company, the Greenland-company, the Hudson's-bay-company, the south-sea-company, have likewise their several charters and privileges for trading to the places from which they take their denominations.

These are the principal trading companies belonging to the crown of Great-Britain; and of a similar nature are the Dutch East and West-India-companies, the French East and West-India companies, &c.

Concerning these companies, it may be proper to remark, that however necessary they might be in the infancy of trade, they are now looked upon by most men in the light of monopolies: hence it is, that their privileges have from time to time been lessened, in order to establish an absolutely free and general trade; and experience hath shewn, that the trade of the nation has advanced in proportion as monopolies have been laid aside. Indeed, to carry on trade with distant countries, where forces and forts are to be maintained, a company with a joint stock seems necessary; or, at least, certain duties ought to be paid, by all who trade thither, towards defraying the said expences: for not to speak of the East India, Hudson's-bay, &c. companies, the expence of maintaining whose forts must be very considerable, even the Turkey, Hamburgh, Muscovy, and Eastland companies, which do not trade with a joint stock, are nevertheless obliged to be at considerable charges, in making presents to the grand seignior and his ministers, maintaining consuls, &c. It would therefore be injustice that any should trade to the places within their charters, without paying the same duties towards the companies charge, as the present adventurers pay; but then there appears to be no reason why any of the king's subjects should be barred from trading to those places, or forced to pay a great fine for admission, that are willing to pay the company's duties, and submit to their regulations and orders in other respects.

On the whole, as all restrictions of trade are found to be hurtful, nothing can be more evident than that no company whatsoever, whether they trade in a joint stock,

or only under regulation, 'can be for the public good, except it may be easy for all or any of his majesty's subjects to be admitted into all or any of the said companies, at any time, and for a very inconsiderable fine.

COMPANY, in military affairs, a small body of foot, commanded by a captain, who has under him a lieutenant and ensign.

The number of centinels, or private soldiers in a company, may be from 50 to 80; and a battalion consists of thirteen such companies, one of which is always grenadiers, and posted on the right: next them stand the eldest company, and on the left the second company; the youngest one being always posted in the center.

Companies not incorporated into regiments are called irregulars, or independent companies.

Artillery COMPANY. See the article **ARTILLERY**.

COMPANY of *ships*, a fleet of merchantmen, who make a charter-party among themselves, the principal conditions whereof usually are, that certain vessels shall be acknowledged admiral, vice-admiral, and rear admiral; that such and such signals shall be observed; that those which bear no guns, shall pay so much *per cent.* of their cargo; and in case they be attacked, that what damages are sustained, shall be reimbursed by the company in general. In the Mediterranean, such companies are called *conserves*.

Rule of COMPANY, in arithmetic, the same with fellowship. See **FELLOWSHIP**.

COMPARATES, *comparata*, among logicians, denote the terms of a comparison, or the subjects compared to each other. See the article **COMPARISON**.

COMPARATIONE, or *punctum ex COMPARATIONE*, in conics. See the article **PUNCTUM**.

COMPARATIONIS HOMOGENEUM, in algebra. See the article **HOMOGENEUM**.

COMPARATIVE, in general, denotes something that is compared to another. Thus,

COMPARATIVE ANATOMY, is that branch of anatomy which considers the secondary objects, or the bodies of other animals; serving for the more accurate distinctions of several parts, and supplying the defect of human subjects.

It is otherwise called the anatomy of beasts, and sometimes *zootomy*; and stands in contradistinction to human ana-

tomy, or that branch of the art which considers the human body, the primary object of anatomy. See **ANATOMY**.

COMPARATIVE DEGREE, among grammarians, that between the positive and superlative degrees, expressing any particular quality above or beneath the level of another.

The French form most of their comparatives by the addition of the particles *plus*, *moins*, and *aussi*: the Italians, by *piu*, *meno*, &c. as the quality of any thing is to be raised, lowered, or equalled to another.

The english, of most other modern languages, comes in this particular next the latin, which expresses the comparative degree by a peculiar termination of its adjectives: thus, as the Latins say, *lucidus*, *lucidior*, *lucidissimus*; so we say in english, *bright*, *brighter*, *brightest*. The same holds in most other instances: as *formosus*, *formosior*, *formosissimus*; in english, *fair*, *fairer*, *fairest*. Again, as the Latins have anomalous, or irregular degrees of comparison, so have the English, and frequently in the same instances: thus, *bonus*, *melior*, *optimus* is expressed in english, by *good*, *better*, *best*; and so in other examples. However, the regular comparative degree in english, is formed by adding the syllable *er*, or prefixing the word *more*, to the positive degree: thus, from *long*, *narrow*, &c. are formed *longer*, *narrower*; and from *wise*, *prudent*, &c. come *more wise*, *more prudent*, &c.

COMPARISON, in a general sense, the consideration of the relation between two persons or things, when opposed and set against each other, by which we judge of their agreement or difference, and find out wherein the one has the advantage of the other.

COMPARISON of *ideas*, among logicians, that operation of the mind whereby it compares its ideas one with another, in regard of extent, degree, time, place, or any other circumstance, and is the ground of relations. This is a faculty which the brutes seem not to have in any great degree. See **IDEA** and **RELATION**.

COMPARISON, in grammar, the inflection of the comparative degree. See the article **COMPARATIVE**.

COMPARISON, in rhetoric, a figure that illustrates and sets off one thing, by resembling and comparing it with another, to which it bears a manifest relation and

resemblance, as the following figure in Shakespear.

"She never told her love,

"But let Concealment, like a worm

"i' the bud,

"Feed on her damask cheek: she

"pined in thought,

"And sat like Patience on a monu-
ment,

"Smiling at Grief."

COMPARTIMENT, or **COMPARTMENT**. See the article **COMPARTMENT**.

COMPARTITION, in architecture, denotes the useful and graceful disposition of the whole ground-plot of an edifice, into rooms of office, and of reception or entertainment. See the article **BUILDING**.

COMPARTMENT, or **COMPARTIMENT**, in general, is a design composed of several different figures, disposed with symmetry, to adorn a parterre, a ceiling, &c.

A compartment of tiles, or bricks, is an arrangement of them, of different colours, and varnished, for the decoration of a building. Compartments, in gardening, are an assemblage of beds, plats, borders, walks, &c. disposed in the most advantageous manner that the ground will admit of. Compartments, in heraldry, are otherwise called partitions.

COMPASS, or *Mariner's COMPASS*, an instrument whereby the ship's course is determined.

This instrument, which is a representation of the horizon, is a circle divided into 32 equal parts, by right lines drawn from the center to the circumference, called points, or runbs, being also divided into 360 equal parts, or degrees; and consequently, the distance between, or angle formed by any two runbs, is equal to $11^{\circ} 15'$. The four principal of these runbs are called the cardinal points, and take their names from the places to which they tend, *viz.* that which extends itself under the meridian, pointing towards the north, is called north; and its opposite one, pointing towards the south, is called south; that which is towards the right hand, the face being directed north, is termed east; and its opposite, west. The names of the others are compounded of those, according to their situation, as may be seen in plate XLVI. fig. 3. N^o. 1. On the backside of the north and south points is fastened a needle, which, being touched with a magnet or loadstone, is endued with a magnetic virtue, whereby the north and

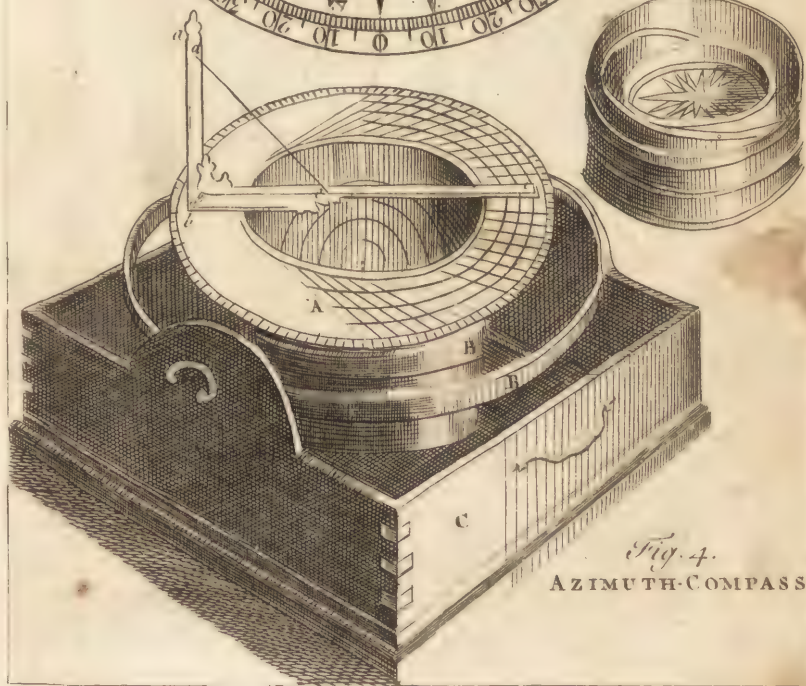
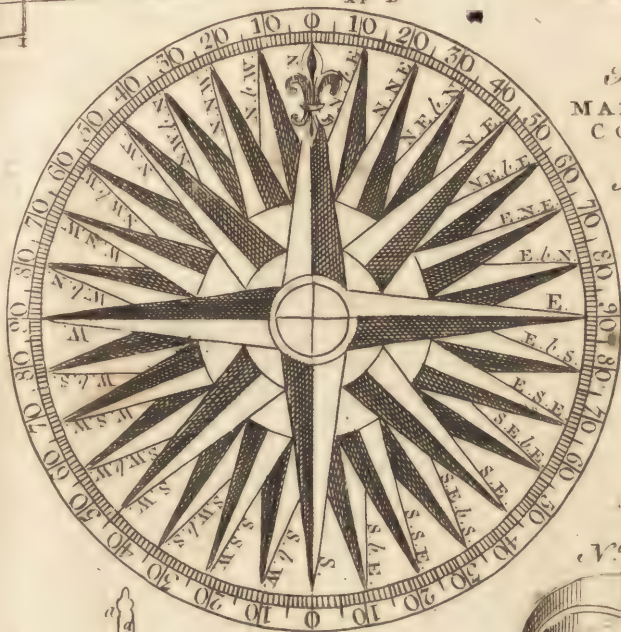
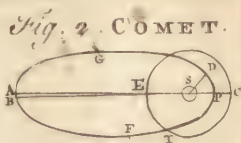
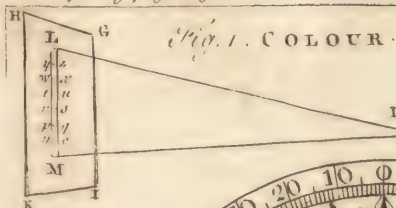
south points are nearly directed towards the north and south points of the horizon; and is, therefore, of the greatest use in determining the ship's course, and alteration of the winds. See **VARIATION**.

In the center of this card is fitted a brass cone, or cape, a little concave, which, being placed upon a pivot, fixed perpendicularly in the middle of the box, plays at liberty on the pivot: the top of the box is covered with a glass, that the motion of the card may be observed. The whole is inclosed in another box, where it is sustained by brass hoops, to keep it always in a horizontal position. See a perspective view of it, *ibid.* N^o. 2. The invention of this instrument is, by some, attributed to one John Goia, of Amalphi, in Campania, in the kingdom of Naples; who made the card thereof to consist of only eight points, *viz.* the four cardinal, and four collateral ones. Others say, it was the invention of the people of China; and Gilbert, in *libro de magnete*, affirms that Paulus Venetus brought it first into Italy, in the year 1260, having learned it from the Chinese; and Ludi Vertomanus affirms, that when he was in the East-Indies, about the year 1508, he saw a pilot of a ship direct his course, by a compass, fastened and formed like those now commonly used.

And Mr. Barlow, in his navigator's supply, anno 1597, says, that in a personal conference with two East Indians, they affirmed, that, instead of our compass, they use a magnetical needle of six inches, and longer, upon a pin, in a dish of white china earth, filled with water, in the bottom whereof they have two cross lines, for the principal winds, the rest of their divisions being left to the skill of their pilots.

COMPASS is also an instrument in surveying of land, dialling, &c. whose structure is chiefly the same with that of the mariner's compass; and, like that, consists of a box and needle; the principal difference being this, that, instead of the needle's being fitted into the card, and playing with it on a pivot, it here plays alone.

This instrument is of manifest use to travellers, to direct them in their road; and to miners, to shew them what way to dig, &c. but the more considerable uses of this compass in taking the declination of a wall, in taking of angles, and plots of a field, &c. may be seen in the



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the articles SURVEYING, DIALING, CIRCUMFERENTOR, &c.

Azimuth COMPASS. See the article AZIMUTH *Compass*.

This instrument consists of a card, moving in a box, like a mariner's compass; and on the top of the box, is a concentric circle of brass, plate XLVI. fig. 4. one semicircle whereof is divided into 90 equal parts, or degrees, numbering from the middle of the said divisions, both ways, with 10, 20, &c. to 45°; which degrees are also divided into minutes, by diagonal lines and circles: but these graduating lines are drawn from the opposite part of the circle, *viz.* from the *b* wherein the index turns in time of observation. *b c* is that index moveable about the point *b*, having a sight *b a* erected thereon, which moves with a hinge, that so it may be raised or laid down, according to necessity. From the upper part of this sight, down to the middle of the index, is fastened a fine hypotenusal lute-string, or thread *d e*, to give a shadow upon a line that is in the middle of the said index.

The reason of making the index move upon a pin fastened in *b* is, that the degrees and divisions may be larger; for now they are as large again as they would have been, if divided from the center, and the index made to move thereon; and consequently are only 90, instead of 180. The above-mentioned broad circle of brass is crossed at right angles, with two threads; and from the end of these threads are drawn four small black lines, on the inside of the round box; also there are four right lines drawn at right angles to each other, on the card.

This round box, thus fitted with its eard, graduated circle, index, &c. is to be hung in the brass hoops B B, and these hoops are fastened to the great square wooden box C C.

The use of the azimuth compass.

1. To find the sun or star's magnetic amplitude: Turn the whole compass-box to and fro, till each point of the brass compass lies directly above its corresponding point of the compass card; and let the ship be kept stemming the same point; turn the index towards the sun or star, at its rising or setting, till the two threads of the index be in a right line with the object; and that side of the index corresponding with the center of the instrument, will cut on the brass circle the degree, &c. of the object's magnetic

amplitude; in quantity and quality, which is best counted from the nearest meridian point, easterly or westerly.

2. To find the sun or star's magnetic azimuth, or what point of the compass the object is upon, after it is above the horizon: Turn the whole compass-box to and fro, till the points of the brass compass coincide with those on the compass card, and let the ship be stemming that point; turn the index towards the object, till the shadow of the thread fall on the backside of the index, or you see the two threads in a right line with the object; then will that side of the index, respecting the center, cut on the brass circle the object's magnetic azimuth.

COMPASS-DIALS are small horizontal dials, fitted in brass or silver boxes, for the pocket, to shew the hour of the day, by the direction of a needle, that indicates how to place them right, by turning the dial about, till the cock or style stand directly over the needle, and point to the northward: but these can never be very exact, because of the variations of the needle itself. See the articles DIAL and NEEDLE.

COMPASSES, or pair of COMPASSES, a mathematical instrument for describing circles, measuring figures, &c.

The common compasses consist of two sharp pointed branches, or legs, of iron, steel, brass, or other metal, joined at top by a rivet, whereon they move as on a center. See plate XLVII. N°. 1.

The principal perfection of this, as of all other compasses, consists in the easy and uniform opening and shutting of their legs; one of which may be taken out, in order to make room for others.

There are now used compasses of various kinds and contrivances, accommodated to the various uses they are intended for; as,

COMPASSES of three legs are, setting aside the excess of a leg, of the same structure with the common ones: their use being to take three points at once, and so to form triangles; to lay down three positions of a map, to be copied at once, &c. *ibid.* N°. 2.

Beam COMPASSES consist of a long branch, or beam, carrying two brass cursors, the one fixed at one end, the other sliding along the beam, with a screw to fasten it on occasion, *ibid.* N°. 3.

To the cursors may be screwed points of any kind, whether steel, for pencils, or the like. It is used to draw large circles, to take great extents, &c.

Caliber COMPASSES. See the article CALIBER.

Clockmaker's COMPASSES are joined like the common compasses, with a quadrant, or bow, like the spring compasses; only of different use, serving here to keep the instrument firm at any opening. They are made very strong, with the points of their legs of well tempered steel, as being used to draw lines on paste-board or copper, *ibid.* N° 4.

Cylindrical and spherical COMPASSES, consist of four branches, joined in a center, two of which are circular, and two flat, a little bent on the ends: their use is to take the diameter, thickness or caliber of round or cylindric bodies; such as cannons, pipes, &c. *ibid.* N° 5.

For the method of using them, see the article CALIBER *Compasses*.

Elliptic COMPASSES consist of a cross A B G H, with grooves in it, and an index C E, which is fastened to the cross by means of dove-tails at the points C D, that slide in the grooves; so that when the index is turned about, the end E will describe an ellipse, which is the use of these compasses, *ibid.* N° 6.

German COMPASSES have their legs a little bent outwards, towards the top, so that when shut, the points only meet, *ibid.* N° 7.

Lapidary's COMPASSES are a piece of wood, in form of the shaft of a plane, cleft at top, as far as half its length: with this they measure the angles, &c. of jewels and precious stones, as they cut them. There is in the cleft a little brass rule, fastened there at one end by a pin; but so that it may be moved in manner of a brass level: with this kind of square they take the angles of the stones, laying them on the shaft, as they cut them.

Proportional COMPASSES are such as have two legs, but four points, which, when opened, are like a cross, as not having the joint at the end of the legs like common compasses: some of these have fixed joints, others moveable ones; upon the legs of the latter of which are drawn the lines of chords, sines, tangents, &c. as on the sector, *ibid.* N° 8. where A represents the simple kind, and B, that marked with the sector lines.

Their use is to divide lines and circles into equal parts; or to perform the operations of the sector, at one opening of them. See the articles SECTOR, PROPORTION, and PROPORTIONAL,

Sailor's COMPASSES, a kind much used by seamen on account of their usefulness in working traverses. Its construction is represented, *ibid.* N° 9.

Spring COMPASSES, or *DIVIDERS*, those with an arched head, which by its spring opens the legs; the opening being directed by a circular screw, fastened to one leg, and let through the other, worked with a nut. Those compasses are made of hardened steel, *ibid.* N° 10.

Triangular COMPASSES. See the article TRIANGULAR.

Trisecting COMPASSES consist of two central rules, and an arch of a circle of 120 degrees, immoveable, with its radius; which is fastened with one of the central rules, like the two legs of a sector, that the central rule may be carried through all the points of the circumference of the arch. The radius and rule should be as thin as possible; and the rule fastened to the radius should be hammered cold, to attain the greater elasticity; and the breadth of the central rule should be triple that of the radius: there must be also a groove in this rule, with a dove-tail, fastened on it, for its motion, and a hole in the center of each rule: The use of this instrument is to facilitate the trisection of angles geometrically: and it is said to have been invented by M. Tarragen for that purpose.

Turn up COMPASSES. The body of this instrument is like the common compasses, but towards the bottom of the legs, without side, are added two other points, besides the usual ones: the one whereof carry a drawing pen-point, the other a portraion, both adjusted so as to turn round, and so be in the way of use, or out of it, as occasion requires. These compasses have been contrived in order to save the trouble of changing the points.

COMPEIGN, a city of France, situated on the river Oyse, about forty-five miles north-east of Paris: east longitude 3°, north latitude 49° 30'.

COMPENDIUM, in matters of literature, denotes much the same with epitome, or abridgment. See ABRIDGMENT.

COMPENSATION, in a general sense, an action whereby any thing is admitted as an equivalent to another.

COMPENSATION, in the civil law, a sort of right, whereby a debtor, sued by his creditor for the payment of a debt, demands that the debt may be compensated with what is owing him by the creditor, which, in

in that case, is equivalent to payment.
COMPERTORIUM, in the civil law, signifies a judicial inquest made by delegates to search out and relate the truth of a case.

COMPETENCE, or **COMPETENCY**, in law, the right or authority of a judge, for taking cognizance of any matter. See the article **JURISDICTION**.

COMPITALIA, or **COMPITALITIA**, in the roman antiquity, feasts instituted by Servius Tullius in honour of the Lares. See the article **LARES**.

These feasts were observed on the 12th of January, and 6th of March.

Tarquinius Superbus, consulting the oracle upon the subject of the sacrifices to be offered on that occasion, was answered that he should offer heads to the Lares: for which reason, the Romans presented the heads of young children in sacrifice to those deities. But Junius Brutus ordered poppy heads to be offered in their stead. Macrobius relates, that they satisfied the Lares, by offering the images of men and women made in straw; and that for each slave in their family, they threw in so many bales of wool.

COMPLEMENT, in astronomy, the distance of a star from the zenith: or the arch comprehended between the place of the star above the horizon, and the zenith.

COMPLEMENT, in geometry, is what remains of a quadrant of a circle, or of 90° , after any certain arch has been taken away from it. Thus, if the arch taken away be 40° , its complement is 50 : because $50 + 40 = 90$. The sine of the complement of an arch is called the cosine, and, that of the tangent, the cotangent, &c.

COMPLEMENT of the course, in navigation, is the number of points the course wants of 90° , or eight points, *viz.* of a quarter of the compass. See *Mariner's COMPASS*.

COMPLEMENT of the curtain, in fortification, is that part of it which makes the demigorge. See the articles **CURTIN** and **DEMIGORGE**.

COMPLEMENT of the line of defence, is the remainder of the line of defence, after the angle of the flank is taken off. See the articles **ANGLE** and **DEFENCE**.

COMPLEMENTS in a parallelogram, are the two smaller parallelograms **GAE**, **FCE** (plate **XLIX**. fig. 2.) made by drawing two right lines **GE**, and **FE**, through the point **E**, in the diagonal; and parallel to the sides **AB**, **BC**, of a parallelogram **ABCD**.

In every parallelogram, these complements are equal. See **PARALLELOGRAM**.

COMPLEX, in a more general sense, a term synonymous with compound, tho' in strictness of speech there is some difference. See the article **COMPOUND**.

COMPLEX terms, or *ideas*, in logic, are such as are compounded of several simple ones. See the articles **TERM** and **IDEA**.

Complex ideas are often considered as single and distinct beings, tho' they may be made up of several simple ideas, as a body, a spirit, a horse, a flower: but when several of these ideas of a different kind are joined together, which are wont to be considered as distinct, single beings, they are called a compounded idea, whether these united ideas be simple or complex. Complex ideas, however compounded and recomposed, tho' their number be infinite, and their variety endless, may be all reduced under these three heads, modes, substances, and relations.

COMPLEX proposition, is either that which has at least one of its terms complex, or such as contains several members, as causal propositions: or it is several ideas offering themselves to our thoughts at once, whereby we are led to affirm the same thing of different objects, or different things of the same object. Thus, *God is infinitely wise, and infinitely powerful*. In like manner, in the proposition, *Neither kings nor people are exempt from death*.

COMPLEXION, *complexio*, among physicians, the temperament, habitude, and natural disposition of the body, but more often the colour of the face and skin.

A fair, florid, and clear complexion, shew the purity and pellucidities of the lymphatic fluids: if it be livid, lurid, and yellow, they discover a salino-sulphureous impurity of the same, and a disordered secretion in the proper organs, especially the liver. In regard to the natural disposition of the body, antient physicians and philosophers distinguished four principal complexions in man, *viz.* the sanguine complexion, answering to the air, and supposed to have the qualities thereof, as being hot and moist; the phlegmatic complexion, being cold and moist, corresponding with water; the bilious and choleric complexion, being hot and dry, supposed of the nature of a fire; and the melancholic complexion, being cold and dry, partaking of the nature of earth. However, these distinctions are at present little regarded.

COMPLEXION, in logic, a term sometimes applied to the second operation of the mind, called judgment. See the article **JUDGMENT**.

COMPLEXION, in metaphysics, the union or coalition of several things different from each other, either really or imaginary.

COMPLEXION, in rhetoric, a figure including a repetition and a conversion at the same time, the sentence both beginning and ending with the same word. See **REPETITION** and **CONVERSION**.

COMPLEXUS, in anatomy, a broad and pretty long muscle, lying along the back-part and side of the neck: it is fixed below to the vertebrae of the neck, and above, to the upper transverse line of the os occipitis. There is one of these on each side; and both acting together, they pull the head directly backwards; whereas, if only one acts, it draws the head obliquely back.

COMPLEXUS MINOR, in anatomy, a narrow, long, and slender muscle, lying along the inside of the neck, and otherwise called *massoideus lateralis*. See the article **MUSCLE**.

COMPLICATION, in general, denotes the blending, or rather interweaving, of several different things together; thus a person afflicted with several disorders at the same time, is said to labour under a complication of diseases.

COMPONED, **COMPONE**, or **GOBONY**, in heraldry, is said of a bordure made up of angular parts, or chequers, of two different colours. See plate LIV. fig. 1.

Counter-COMPONED. See **COUNTER**.

COMPOS, or rather **NON COMPOS**, in law. See **NON COMPOS MENTIS**.

COMPOSITE, in general, denotes something compounded or made up of several others united together. Thus,

COMPOSITE NUMBERS, are such as can be measured exactly by a number exceeding unity; as 6 by 2 or 3; or 10 by 5, &c. so that 4 is the lowest composite number. Composite numbers, between themselves, are those which have some common measure besides unity; as 12 and 15, as being both measured by 3.

COMPOSITE ORDER, in architecture, the least of the five orders of columns; so called because its capital is composed out of those of the other columns, borrowing a quarter round from the tuscan and doric, a row of leaves from the corin-

thian, and volutes from the ionic. Its cornice has simple modillions or dentils; It is also called the roman or italic order, as having been invented by the Romans: By most authors it is ranked after the corinthian, either as being the next richest, or the last invented.

Scamozzi, and after him M. Le Clere, make the column of this order nineteen modules and a half, being less by half a module than that of the corinthian, as in effect the order is less delicate than the corinthian. Vignola makes it twenty, which is the same with that of his corinthian: but Serlio, who first formed it into an order, by giving it a proper entablature and base, and after him M. Perrault, raise it still higher than the corinthian. See plate XLVIII.

M. Perrault, in his Vitruvius, makes a distinction between the composite and composed order. The latter, he says, is any composition whose parts and ornaments are extraordinary and unusual; but have, withal, somewhat of beauty, both on account of their novelty, and in respect of the manner or genius of the architect: so that a composed order is an arbitrary, humorous composition, whether regular, or irregular.

For the parts of this order, see the articles **BASE**, **CAPITAL**, **COLUMN**, **ENTABLATURE**, **FRIEZE**, **PEDESTAL**, &c.

COMPOSITION, *compositio*, in a general sense, the uniting or putting together several things, so as to form one whole, called a compound.

COMPOSITION of ideas, an act of the mind, whereby it unites several simple ideas into one conception, or complex idea.

When we are provided with a sufficient stock of simple ideas, and have, by habit and use, rendered them familiar to our minds, they become the component parts of other ideas, still more complicated; and form, what we may call, a second order of compound notions. This process, as is evident, may be continued to any degree of composition we please; mounting from one stage to another, and enlarging the number of combinations.

COMPOSITION, in grammar, the joining of two words together; or prefixing a particle to another word, to augment, diminish, or change its signification. See the article **WORD**.

COMPOSITION, in logic, a method of reasoning, whereby we proceed from some general

general self-evident truth, to other particular and singular ones.

In disposing and putting together our thoughts, there are two ways of proceeding, equally within our choice: for we may so propose the truths, relating to any part of knowledge, as they presented themselves to the mind, in the manner of investigation; carrying on the series of proofs in a reverse order, till they, at last, terminate in first principles: or beginning with these principles we may take the contrary way, and from them deduce, by a direct train of reasoning, all the several propositions we want to establish.

This diversity, in the manner of arranging our thoughts, gives rise to the twofold division of method established among logicians, the one called analytic method, or the method of resolution, inasmuch as it traces things back to their source, and resolves knowledge into its first and original principles. This method stands in contradistinction to the method of composition; or, as it is otherwise called, the synthetic method: for here we proceed by gathering together the several scattered parts of knowledge, and combining them into one system, in such a manner, as that the understanding is enabled distinctly to follow truth through all the different stages of gradations.

COMPOSITION, in music, the art of disposing musical sounds into airs, songs, &c. either in one or more parts, to be sung by a voice, or played on instruments. See the articles **MUSIC** and **SONG**.

Under composition are comprehended the rules. 1. Of melody, or the art of making a single part; that is, contriving and disposing the simple sounds, so as that their succession and progression may be agreeable to the ear. See **MELODY**.

2. Of harmony, or the art of disposing and concerting several single parts together, so as that they make one agreeable whole. See the article **HARMONY**.

It may be proper to observe here, that melody being chiefly the business of the imagination, the rules of its composition serve only to prescribe certain limits to it, beyond which the imagination, in searching out the variety and beauty of airs, ought not to go: but harmony being the work of the judgment, its rules are more certain and extensive, and more difficult in practice.

COMPOSITION, in oratory, the coherence and order of the parts of a discourse.

To composition belong both the art-

ful joining of the words, whereof the stile is formed, and whereby it is rendered soft and smooth, gentle and flowing, full and sonorous; or the contrary; and the order, which requires things first in nature and dignity, to be put before those of inferior consideration.

COMPOSITION, in painting, consists of two parts, invention and disposition; the first whereof is the choice of the objects, which are to enter into the composition of the subject the painter intends to execute, and is either simply historical or allegorical. See the article **INVENTION**.

The other very much contributes to the perfection and value of a piece of painting.

COMPOSITION, in pharmacy, the method of mixing and compounding medicines of different qualities, so that they may assist each other's virtues, or supply each other's defects. See **PHARMACY**.

COMPOSITION, in commerce, a contract between an insolvent debtor and his creditors, whereby the latter accept of a part of the debt in compensation for the whole, and give a general acquittance accordingly.

COMPOSITION, in printing, commonly termed composing, the arranging of several types or letters, in the composing-stick, in order to form a line; and of several lines ranged in order in the galley, to make a page; and of several pages, to make a form.

Generally the composing-stick is made of iron, sometimes of wood, more or less in length or depth, according to the page to be composed, or the fancy of the compositor. It has two sliding pieces, fastened by means of a nut and screw, which are slipped forwards or backwards, according to the space which the lines, notes, &c. are to take up, or the compositor thinks proper. The composing-stick ordinarily contains seven or eight lines of a middle sized letter: these lines, when set, are taken out, by means of a thin slip of brass, called a rule, and disposed in the galley: then others are composed, until a page is formed, which being done, it is tied up and set by: the rest of the pages that make up a sheet, being prepared in the same manner, are carried to the imposing or correcting-stone, and being there ranged in order, they are disposed in an iron frame, fitted with wooden furniture: then the quoins being struck in, the chase, or frame, is put in the press,

in order to their being printed. See the article *PRINTING, &c.*

COMPOSITION of motion, is an assemblage of several directions of motion, resulting from several powers acting in different, though not opposite, directions.

The doctrine of composition and resolution of motion, is founded on Sir Isaac Newton's second law of nature, *viz.*

"The change of motion is always proportionable to the moving force impressed, and is always made according to the right line in which that force is impressed."

Let the body *B* (plate *XLIX.* fig. 4.) be impelled by the body *A*, in the direction *bc*, with a force that would, in a given time, cause it to move from *b* to *c*; at the same instant let another body *C* strike it in the direction *bd*, with a force that will carry it from *b* to *d*, in the same time: then completing the parallelogram *bced*, and drawing the diagonal *be*, this last will represent the direction and distance through which the body will move, in the same time, by both the forces conjointly.

This is evident, if we consider that the force impressed by the body *C*, does no way diminish the velocity of a body approaching to the line *ce*, at the end of the given time, and therefore it will then be found somewhere in the said line *ce*: for the same reason it will, at the end of the said time, be carried to a distance from *bc* equal to *bd*; and therefore it must also, at the same moment, be found somewhere in the line *de*; but it cannot be in the lines *ce* and *de* at the same time, unless in that point *e*, where they intersect each other, as the proposition asserts.

We may now conceive the body *B* moving by the single impulse of some power in the direction *be*, such as will carry it through the space *be* in a given time; then this may be resolved into any other two forces acting in the directions *bc* or *de*, and *bd* or *ce*, which lines will also represent the efficacy of the said forces in the same time.

COMPOSITION of proportion, is the comparing the sum of the antecedent and consequent, with the consequent in two equal ratios; as suppose, $4:8::3:6$, they say, by composition of proportion, $12:8::9:6$.

The same holds of the sum of the antecedent and consequent, compared with

the antecedent: thus we likewise say $12:4::9:3$.

There is a great difference between composition of proportion by addition and by multiplication. See *PROPORTION*.

COMPOST, in husbandry and gardening, several sorts of soils, or earthy matter, mixed together, in order to make a manure, for assisting the natural earth in the work of vegetation, by way of amendment or improvement.

Composts are various, and ought to be different, according to the different nature or the quality of the soils which they are designed to meliorate, and according as the land is either light, sandy, loose, heavy, clayey, or cloddy. A light, loose land, requires a compost of a heavy nature, as the scouring of deep ditches, ponds, &c. so, on the other hand, a land that is heavy, clayey, or cloddy, requires a compost of a more sprightly and fiery nature, that will insinuate itself into the lumpish clods, which, if they are not thus managed, would very much obstruct the work of vegetation. See *CLAY, &c.*

The great use of composts, is for such plants as are preserved in pots, or tubs; or sometimes it is used for small beds, or borders of flower-gardens: but it is too expensive to make composts for large gardens, where great quantities of soil is required. In making of composts, great care should be had that the several parts are properly mixed together, and not to have too much of any one sort thrown together.

COMPOSTELLA, the capital of Galicia, in Spain, remarkable for the devotion paid there by pilgrims from all countries, to the relics of St. James.

COMPOSTO, in music, means compounded or doubled, as a fifteenth is an octave doubled, or an octave is compounded of a fifth and a fourth.

COMPOUND, in a general sense, an appellation given to whatever is composed, or made up of different things: thus we say, a compound word, compound sound, compound taste, compound force, &c. See the articles *WORD, SOUND, &c.*

COMPOUND-FLOWER, one consisting of several distinct lesser flowers, or corollulæ, each furnished with a style, stamina, &c. See the article *FLOWER*.

The corollulæ are of two kinds, *viz.* tubulated, and ligulated: the tubulated ones are always furnished with a campanulated limb, divided into four or five seg-

segments; whereas the ligulated corollæ have only a flat, linear limb, terminated by a single point, or by a broader extremity, divided into three or five segments.

The plants with compound flowers are extremely numerous, forming a class by themselves, called by Linæus *syngenesia*. See the article *SYNGENESIA*.

COMPOUND-INTEREST. See the article *INTEREST*.

COMPOUND-MOTION, that effected by the concurring action of several different powers. Thus if one power act in the direction of, and with a force proportional to the end of a parallelogram; and another act in the direction of, and with a force proportional to its side, the compound motion will be in the direction of, and proportional to, the diagonal of the said parallelogram. See *COMPOSITION*.

COMPOUND NUMBERS, those which may be divided by some other number besides unity, without leaving any remainder: such are 18, 20, &c. the first being measured by the numbers 2, 6, or 9; and the second, by the numbers 2, 4, 5, 10.

COMPOUND PENDULUM, QUANTITIES, &c. See the articles *PENDULUM, QUANTITY, &c.*

COMPREHENSION, in logics, the same with apprehension.

COMPREHENSION, or *SYNECDOCHE*, a trope or figure in rhetoric, which puts the name of the whole for a part; or of a part for the whole; a general for a particular of the same kind; or a particular for a general. By this trope a round and certain number is often set down for an uncertain one.

COMPRESS, in surgery, a bolster of soft linen cloth, folded in several doubles, frequently applied to cover a plaster, in order not only to preserve the part from the external air, but also the better to retain the dressings, or medicines.

Compresses are frequently applied where no plaster is made use of; and that sometimes dry, sometimes wetted with certain liquors, which are supposed to be strengthening, resolving, lenient, emollient, or cooling, which are administered hot or cold, as the circumstances of the case shall require. Compresses of all kinds are intended for these purposes. 1. To preserve and cherish the natural heat of the body. 2. To secure the dressings that lie under them. 3. To convey liquid remedies to parts wounded, or otherwise disordered, and to prolong the use of

them. 4. To fill up any cavity or depressions of the parts; and, 5. To prevent bandages from bringing on a troublesome itching, or other pain or uneasiness upon the skin.

COMPRESSED, in general, is said of things whose sides are squeezed together, and consequently of a broad and flat figure.

COMPRESSED LEAF, among botanists, one with a mark or impression on both sides. See the article *LEAF*.

COMPRESSION, the act of pressing or squeezing some matter, so as to set its parts nearer to each other, and make it possess less space.

It is different from condensation, in that compression is performed with some external violence, but condensation by the action of cold. Thus the moderns say, that pumps do really act by compression, whereas the ancients imagined they acted by suction: the embolus, or sucker, going and returning in a narrow tube, compresses the air inclosed in it, so as to enable it to raise the valve by the force of the elasticity, and make its escape; upon which, the balance being destroyed, the pressure of the atmosphere on the stagnant surface, drives up the water into the tube, thus evacuated of its air. See the article *PUMP*.

Water is incapable of being compressed, and no art or violence is able to bring its parts closer, or make it take up less space, after the air has been once purged out of it. It has been found by an experiment, made by the academy del Cimento, that water, being violently squeezed; made its way through the infinitely small pores of a ball of gold; rather than undergo a compression. The compression of air, by its own weight, is surprisingly great, for it appears, by calculation, that the common air we breathe near the surface of the earth, is pressed by a weight of the superincumbent atmosphere into $\frac{1}{13760}$ part of the space it would take up, if it were at liberty. See the article *ATMOSPHERE*.

But the air may be still further compressed by art; and it appears by Mr. Boyle's experiments, that the space which the air takes up when at its utmost dilatation, is to that which it takes up when most compressed, as 520000 to 11. See *AIR*.

COMPRESSOR, in anatomy, a muscle of the face; more usually known by the name of *elevator alæ nasi*.

COMPRINT, among booksellers, signifies

fies a surreptitious printing of another's copy, in order to gain thereby, which is expressly contrary to statute 14 Car. II.

COMPRISE, or **NIENT COMPRISE**. See the article **NIENT COMPRISE**.

COMPROMISE, a treaty, or contract, whereby two contending parties establish one or more arbitrators, to judge of and terminate their difference in an amicable way.

The regular way of appointing a compromise is by writing, expressing the names of the arbitrators, the power of choosing an umpire, or superior arbitrator, in case of need, a time limited for the arbitrage, and a penalty on the party that does not abide by the decision. By the civil law, a slave cannot make a compromise without the leave of his master, nor a pupil without the authority of his guardian, or a wife without that of her husband: so a slave, a deaf or dumb man, a minor, and the person who is a party in the cause, are incapable of being chosen arbitrators in a compromise. The occasions on which a compromise is not always allowed of, are restitutions, marriage causes, criminal affairs, questions of state, and, generally, any thing wherein the public interest is more concerned than that of private persons.

COMPROMISE is also used in beneficiary matters; where it signifies an act, whereby those who have the right of election, transfer it to one or more persons, to elect one capable of the office or dignity.

COMPTING, or **COMPTING-HOUSE**, an office, in the king's household, under the direction of the lord-steward; so called, because the accounts for all expences of the king's household are there taken daily by the lord-steward, comptroller, cofferer, master of the household, the two clerks of the green-cloth, and the two clerks comptrollers. They also make provision for the household, and make payments and orders for the good government thereof.

In the Counting-house is the board of green cloth.

COMPTROL, or **CONTROL**. See the article **CONTROL**.

COMPTROLLER, or **CONTROLLER**. See the article **CONTROLLER**.

COMPULSOR, an officer under the roman emperors, dispatched from court into the provinces, to compel the payment of taxes, &c. not paid within the time prescribed.

These were charged with so many exactions, that Honorius cashiered them.

COMPUNCTION, in theology, an inward grief of mind, for having offended God.

The roman catholics think their confessions insignificant, unless attended with compunction, or inward grief of mind. Compunction, among spiritualists, implies not only a grief for having offended God, but also a pious sensation of grief, sorrow, and displeasure, on other motives.

COMPURGATOR, in law, a person that by oath justifies or clears another's innocence.

COMPUTATION, in a general sense, the manner of estimating time, weights, measure, monies, or quantities of any kind. See the article **COIN**, &c.

COMPUTATION, among mathematicians, is used in the like sense as calculation. See the article **CALCULATION**.

COMPUTATION of a planet's motion. See the article **PLANET**.

COMPUTATION, in law, is used in respect of the true account or construction of time, so understood, as that neither party to an agreement, &c. may do wrong to the other; and that the determination of time be not left at large, or taken otherwise than according to the judgment and intention of law.

If a lease is ingrossed, bearing date January 1, 1754, to have and to hold for three years, from henceforth, and the lease is not executed till the second of January; in this case, the words from henceforth, shall be accounted from the delivery of the deed, and not by any computation from the date. And if the lease be delivered at four of the clock in the afternoon on the said second day, it shall end the first day of January, in the third year; the law, in such computations, rejecting all fractions or divisions of the day.

COMPUTO, in law, a writ to compel a bailiff, receiver, or accountant, &c. to deliver up his accounts.

The same lies for executors of executors, and against the guardian in socage for waste made in the minority of the heir.

CONARION, or **CONOIDES**, a name for the pineal gland, a small gland about the bigness of a pea, placed in the upper part of that hole in the third ventricle of the brain, called the anus, and tied by some fibres to the nates. See the articles **BRAIN**, and **PINEAL GLAND**.

CONATUS.

CONATUS, a term frequently used in philosophy and mathematics, defined by some to be a quantity of motion, not capable of being expressed by any time, or length; as the *conatus recedendi ab axe motus*, is the endeavour which a body, moved circularly, does to recede, or fly off, from the center or axis of its motion. The *conatus centrifugus*, sometimes called the *conatus excusorius*, is always expressed by the versed sine of the angle of circulation: these *conatus* of bodies, revolving in equal circles, with an equable motion, are in a duplicate ratio, or as the squares of their velocities: but if the bodies revolve in unequal circles, their *conatus centrifugi* will be in a ratio compounded of the ratios of the squares of the velocities directly; and the simple ratio of the radii of these circles inversely. If the body describe equal areas in equal times, as in the case of the planets, which revolve in ellipses round the sun, then the *conatus centrifugi* will be reciprocally as the cubes of the radii. See the articles **MOTION**, **CENTRIFUGAL**, &c.

CONCATENATION, a term chiefly used in speaking of the mutual dependence of second causes upon each other. See **CAUSE**.

CONCAVE, an appellation used in speaking of the inner surface of hollow bodies, but more especially of spherical ones.

CONCAVE GLASSES, such as are ground hollow, and are usually of a spherical figure, tho' they may be of any other, as parabolical, &c. All objects seen through concave glasses, appear erect and diminished. The confused appearance of a point, through any concave glass, proceeds from the too great divergency of those rays which fall on the eye: wherefore, since the more remote the eye is from the glass, the less will the rays diverge; then the further the eye is from the concave glass, the more distinct will be the appearance of any object through it, though the more faint. The apparent place of objects seen through concaves is always brought nearer to the eye, which is the reason they help short-sighted persons, or such as can see distinctly only those objects that are very near them. The rule to fit concave glasses to the eye of a near-sighted person, is this: let him observe nicely the distance at which he can read letters, or see objects distinctly, which suppose to be at twelve feet; then will a concave glass, whose virtual focus is a

foot distant from it, make that person see distant objects distinctly. The farther the eye is removed from any concave glass, the less the object appears, and a lesser area of it is seen; and when the glass is exactly in the middle, between the eye and the object, the object will appear the most diminished, that the distance between the eye and the object will admit of. See the articles **FOCUS**, **LENS**, and **MIRROR**.

CONCAVITY, that property of bodies, on account of which they are denominated concave. See the preceding article.

An arch of a curve has its concavity turned one way, when the right lines that join any two of its points are all on the same side of the arch.

Archimedes, intending to include such lines as have rectilinear parts, in his definition, says, a line has its concavity turned one way, when the right lines that join any two of its points are either all upon one side of it, or while some fall upon the line itself, none fall upon the opposite side.

When two lines, having their concavity turned the same way, have the same terms, and the one includes the other, or has its concavity towards it, the perimeter of that which includes, is greater than the perimeter of that which is included.

CONCAVITY also denotes the whole space included with a concave surface, or the inner bend of a curve line.

CONCEALERS, in law, such persons as find out concealed lands; that is, lands that are secretly kept from the king, by common persons that have nothing to shew for their estate or title therein.

CONCENTRATION, in general, signifies the bringing things nearer a center. Hence the particles of salt, in sea water, are said to be concentrated; that is, brought nearer each other, by evaporating the watery part: thus, also, wine is said to be concentrated, when its watery parts are separated in the form of ice by frost.

Dr. Shaw, in his essay on the distillery, is for introducing a method of concentrating the fermentable parts of vegetables, from which their spirits are to be drawn by distillation; which, if it can be brought to be practised in the large way, will prove of very great use to the british distillery, as it will greatly shorten the distiller's business, which at present, including the brewing, fermenting, &c. is much

too long. He proposes only to evaporate carefully the wort, or other tinctures or decoctions of vegetables made for the distilling of their spirits, to the consilience of treacle: in this form they might be sold to the distiller, who might keep them by him as long as he pleased, and occasionally use them, by the easy method of reducing them into wort, by mixing warm water with them.

Some use the term concentration for the most intimate mixture, when the particles are not only brought within contact, but penetrate into each other.

CONCENTRIC, in mathematics, something that has the same common center with another: it stands in opposition to excentric. See **CENTER** and **EXCENTRIC**. Concentric is chiefly used in speaking of round bodies and figures, or circular and elliptical ones, &c. but may be likewise used for polygons, drawn parallel to each other upon the same center. The method of Nonius for graduating instruments consists in describing with the same quadrant 45 concentric arches, dividing the outermost into 99 equal parts, the next into 29, &c.

CONCEPTACULUM, among botanists, a kind of pericarpium, composed of soft and less rigid valves, and containing only one cavity.

CONCEPTION, among physicians, &c. denotes the first formation of an embryo in the womb of its parent, who from that time becomes pregnant. See the articles **GENERATION** and **PREGNANCY**.

Immaculate CONCEPTION, a festival in the romish church, observed on the 8th of December, in commemoration of the holy virgin's having been conceived and born immaculate, or without original sin. The immaculate conception of the virgin, though reckoned a pious opinion, is no article of faith in the romish church, several of whose members have opposed it.

CONCEPTION of our lady, a religious order in Portugal, founded in the XVth century. This order has since passed into Italy, and got footing in Rome and Milan. The religious, besides the grand office of the franciscans, recited on Sundays and holydays, have a lesser office, called the office of the conception of the holy virgin.

CONCEPTION, in logic, is the simple apprehension or perception which we have of any thing, without proceeding to affirm or deny any thing about it.

There are rules by which we may guide

and regulate our conceptions of things, which is the main business in logic; for most of our errors in judgment, and the weakness, fallacy, and mistakes of our argumentation, proceed from the darkness, confusion, defect, or some other irregularity in our conceptions. The rules are these; 1. To conceive of things clearly and distinctly in their own natures. 2. Completely in all their parts. 3. Comprehensively in all their properties and relations. 4. Extensively in all their kinds. 5. Orderly, or in a proper method.

CONCEPTION, in geography, a city of Chili, in South America, situated on the Pacific ocean, in 79° west longitude, and 37° south latitude.

CONCEPTION is also the capital of the province of Veragua, in Mexico, about one hundred miles west of Porto Bello: west longitude 83°, and north latitude 10°.

CONCERT, or **CONCERTO**, in music, a number or company of musicians, playing or singing the same piece of music or song, at the same time.

A concert for any instrument, as organ, harpsichord, violin, &c. is a piece of music, wherein either of those instruments has the greatest part; or in which the performance is partly alone, and partly accompanied by the other parts.

CONCERTANTE, those parts of a piece of music, that sing or play throughout the whole piece, either alone or accompanied, to distinguish these parts that play now and then in particular places.

CONCERTATO intimates the piece of music to be composed in such a manner, as that all the parts may have their recitativos, be it for two, three, four, or more voices or instruments.

CONCERTO GROSSI, the grand chorus of a concert, or those places where all the several parts perform or play together.

CONCESSI, in law, a term frequently used in conveyances. Its effect is to create a covenant, as *dedi* does a warranty.

CONCESSION, in rhetoric, a figure, whereby something is freely allowed, that yet might bear dispute, to obtain something that one would have granted to him, and which he thinks cannot fairly be denied, as in the following concession of Dido, in Virgil:

"The nuptials he disclaims, I urge no more;

"Let him pursue the promis'd latian shore.

"A short delay is all I ask him now;

"A pause of grief, an interval from woe."

CONCHA,

CONCHA, a genus of bivalve shells, the animal inhabiting which is called tethys. See the article **TETHYS**. This is a very comprehensive genus, comprising the oyster, chama, muscle, heart-shell, pecten, solen, &c. See the articles **OYSTER**, **CHAMA**, &c.

CONCHA SPECTRORUM, the **SPECTRE-SHELL**, a species of voluta. See the article **VOLUTA**.

CONCHA, in anatomy, the larger cavity of the external ear, situated before the meatus auditorius, or passage into the internal ear.

CONCHITES, in natural history, a petrified shell, of the concha-kind. See the article **CONCHA**.

CONCHOID, in geometry, the name of a curve, given it by its inventor, Nicomedes, and is thus generated.

Draw the right line QQ (plate **XLIX**. fig. 3.) and AC perpendicular to it in the point E ; and from the point C draw many right lines CM , cutting the right line QQ in Q ; and make $QM = QN$, $AE = EF$, viz. equal to an invariable line: then the curve, wherein are the points M , is called the first conchoid; and the other, wherein are the points N , the second; the right line QQ being the directrix, and the point C the pole: and from hence it will be very easy to make an instrument to describe the conchoid.

The line QQ is an asymptote to both the curves, which have points of contrary flexion. See the article **ASYMPTOTE**. If $QM = AE = a$, $EC = b$, $MR = EP = x$, $ER = PM = y$; then will $a^2 b^2 - 2a^2 bx + a^2 x^2 = b^2 x^2 - 2bx^3 + x^4 + x^2 y^2$, and exprets the nature of the second conchoid; and $x^4 + 2bx^3 + y^2 x^2 + b^2 x^2 = a^2 b^2 + 2a^2 bx + a^2 x^2$, the nature of the first; and so both these curves are of the third kind.

This curve was used by Archimedes and other antients, in the construction of solid problems; and Sir Isaac Newton says that he himself prefers it before other curves, or even the conic sections, in the construction of cubic and biquadratic equations, on account of its simplicity and easy description, shewing therein the manner of their construction by help of it.

CONCHYLIA, a general name for all kinds of petrified shells, as limpets, cochlea, nautili, conchæ, lepadæ, &c.

CONCIATOR, the person who proportions and regulates the several ingredients which go to the making of crystal. See the article **CRYSTAL**.

CONCINNOUS INTERVALS, in music, are such as are fit for music, next to, and in combination with, concords; being neither very agreeable, nor disagreeable in themselves, but having a good effect, as by their opposition they heighten the more essential principles of pleasure; or as by their mixture and combination with them, they produce a variety necessary to our being better pleased.

CONCINNOUS SYSTEM, in music. A system is said to be concinuous, or divided concinuously, when its parts, considered as simple intervals, are concinuous; and are besides placed in such an order between the extremes, as that the succession of sounds, from one extreme to the other, may have an agreeable effect.

CONCLAMATION, in roman antiquity, a custom of calling the dead party by his name, for eight days successively; on the ninth, concluding him past all hopes of recovery, they carried him forth, and buried him. See the article **BURIAL**.

CONCLAVE, the place in which the cardinals of the romish church meet, and are shut up, in order to the election of a pope.

The conclave is a range of small cells, ten feet square, made of wainscot: these are numbered, and drawn for by lot. They stand in a line along the galleries and hall of the Vatican, with a small space between each. Every cell has the arms of the cardinal over it. The conclave is not fixed to any one determinate place, for the constitutions of the church allow the cardinals to make choice of such a place for the conclave as they think most convenient; yet it is generally held in the Vatican.

The conclave is very strictly guarded by troops: neither the cardinals, nor any person shut up in the conclave, are spoke to, but at the hours allowed of, and then in italian or latin; even the provisions for the conclave are examined, that no letters be conveyed by that means from the ministers of foreign powers, or other persons who may have an interest in the election of the pontiff.

CONCLAVE is also used for the assembly, or meeting, of the cardinals shut up, for the election of a pope.

After this assembly has continued three days, they are only allowed one dish for one meal, and after five days, only bread and water: but this rule is not over-religiously observed.

CONCLUSION, in logic, the consequence

or judgment, drawn from what was asserted in the premises; or the previous judgments in reasoning, gained from combining the extreme ideas between themselves. See the article SYLLOGISM. The conclusion of an argument contains two parts, the consequent, which is the matter of it; and the consequence, which is its form, and which, of a simple absolute proposition, renders the conclusion relative to the premises whence it was drawn. The question and the conclusion, say the schoolmen, are the same ideas; only considered in different views or relations. In the question they are considered as doubtful, in the conclusion as void of doubt.

CONCLUSION, in rhetoric, consists of two parts, the recapitulation, or enumeration, and the passions.

The recapitulation consists in a repetition of the principal arguments. See the article RECAPITULATION.

CONCLUSION, in law, is where a person, by his own act upon record, has charged himself with a duty or thing, or confessed any matter, whereby he shall be concluded; as where a sheriff returns on a *capias*, that he has taken the body, and has it not in the court at the day of the return of the writ; the sheriff by this return is concluded from a plea of escape.

CONCOCTION, in medicine, the change which the food undergoes in the stomach, &c. to become chyle. See CHYLE, CHYLIFICATION, and DIGESTION. The first concoction is made in the stomach, by a kind of ferment, as several suppose, which partly remains there from the relics of the former meats, and partly flows thither from the coeliac arteries. The second is made in the guts, by the gall and pancreatic juice. The third is in the glandulæ of the mesentery, from the lymphæ, or water which mixes with the chyle. The fourth is in the lungs, from the mixture of the air in some measure with the blood there. The fifth is in the vessels and bowels, as in the spleen, liver, testicles, &c.

These five are accounted the several concoctions in the body, with regard to the preservation of the individual, and the propagation of the species. They are more particularly called, the first, chylification, for chyle; the second, chymification, for chyme; the third hæmatosis, for blood; the fourth, pneumatosis, for air, and the fifth, spermatosis, for seed.

CONCOMITANT, in theology, something that accompanies or goes along

with another; as concomitant grace is that which God affords us, during the course of our actions, to enable us to perform them; and, according to the Romish divines, to render them meritorious.

CONCOMITANT NECESSITY. See the article NECESSITY.

CONCORD, in grammar, that part of construction, or syntax, in which the words of a sentence agree; that is, in which nouns are put in the same gender, number and case; and verbs in the same number and person with nouns and pronouns. Generally in every language the rules of concord are the same, as being almost every where of the same nature, for the better distinguishing of discourse: thus, from the distinction of two numbers, namely, the singular and the plural, the adjective must be made to agree with the substantive accordingly; that is, the former is to be put in this or that number, as the latter is: for the substantive being what is confusedly, tho' directly marked by the adjective, should the substantive denote several, there are several subjects of that form signified by the adjective, and consequently this should be in the plural number, as *viri fortes*, &c. Again, as there is a distinction of masculine and feminine in most languages, there hence arises a necessity of putting the substantive and adjective in the same gender; and, in like manner, verbs should agree in number and person with nouns and pronouns: but should anything, in writing or discourse, be apparently contrary to those rules above-mentioned, this is by some figure or other in grammar, whereby something is implied, or the ideas themselves are considered more than the words that represent them.

CONCORD, in common law, the agreement between parties, who intend to levy a fine of lands to one another, how and in what manner they shall pass.

CONCORD is also an agreement made between two or more, upon a trespass committed; and is divided into concord executory, and concord executed; the first of which, according to some opinions, does not bind, as being imperfect; but the latter, being absolute, binds the party.

CONCORD, in music, the relation of two sounds that are always agreeable to the ear, whether applied in succession or consonance. If two simple sounds be in such a relation, or have such a difference of tune, as that, being sounded together, they make a mixture or compound sound, which

which affects the ear with pleasure, that relation is called concord; and whatever sounds make an agreeable compound in consonance, the same will always be pleasing in succession, or will follow each other agreeably. The reverse of concords are what we call discords, which is a denomination of all the relations or differences of tune, that have displeasing effects. See the article DISCORD.

Concord and harmony are, in fact, the same thing, though custom has applied them differently; as concord expresses the agreeable effects of two sounds in consonance, so harmony expresses the agreement of a greater number of sounds in consonance.

Unisonance being the relation of equality between the tune of two sounds, all unisons are concords in the first degree; but an interval being a difference of tune, or a relation of inequality between two sounds, becomes a concord or discord, according to the different circumstances of that relation.

The differences of tune take their rise from the different proportions of the vibrations of a sonorous body; that is, from the velocity of those vibrations in their recourses: the more frequent these recourses are, the more acute is the tune, and *vice versa*. But the essential difference between concord and discord lies more remote. There does not appear any natural aptitude in two sounds of a concord, to give a pleasing sensation, more than in two of a discord; these different effects must be resolved into the divine will.

We know from experience, what proportions of tunes are pleasing, and what not; and we know likewise how to express the difference of tune by the proportion of numbers. We know what is pleasing, though we do not know why; for instance, we know that the ratios of 1 : 2 constitutes a concord, and 6 : 7 a discord; but on what original system, pleasing or displeasing ideas are connected with those relations, and their proper influence upon one another, is entirely above our reach. We know that the following ratios of the length of chords, are concord, *viz.* 2 : 1, 3 : 2, 4 : 3, 5 : 4, 6 : 5, 5 : 3, 8 : 5; that is, by taking any chord for a fundamental, represented by 1, the following divisions thereof will be all concords with the

whole, as $\frac{1 \ 2 \ 3 \ 4 \ 5 \ 3 \ 5}{2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 5 \cdot 8}$; so that the characteristic of concords and discords must

be looked for in these numbers expressing the intervals of sound, not abstractedly, but as exhibiting these numbers of vibrations.

The nearer the vibrations of any two strings approach to a coincidence as frequent as possible, the nearer they should approach to that condition, and consequently the agreement of unisons (which are in the first degree of concord, or have the most perfect agreement in tune) as is confirmed from experience. If we take the natural series 1, 2, 3, 4, 5, 6, and compare each number to the next, as expressing the number of vibrations of two chords, in the same time, whose lengths are reciprocally as those numbers, the rule will be found exact; for 1 : 2 is best, then 2 : 3; after 6 the consonance is insufferable, as the coincidences are too rare; though there are no other ratios that are agreeable, besides those found in that continued order, namely, 3 : 5 and 5 : 8, which, with the preceding five, are all the concurring intervals within, or less than an octave, or 1 : 2, that is, whose acutest term is greater than half the fundamental. On this principle 3 : 5 will be preferable to 4 : 5, because being equal in the number of vibrations of the acuter term, there is an advantage on the side of the fundamental, in the ratio 3 : 5, where the coincidence is made at every third vibration of the fundamental; and every fifth of the acute term. In like manner, the ratio 5 : 8 is less perfect than 5 : 6, because though the vibrations of each fundamental, that go to one coincidence, are equal, yet in the ratio 5 : 6, the coincidence is at every sixth of the acute term, and only at every eighth in the other.

Thus we have a rule for judging of the preference of concords from the coincidence of their vibrations, as in the following table.

| | Ratios or Vibrations. | | Coincid. |
|----------------|-----------------------|----------------|----------|
| | Grave Term. | Acute Term. | |
| Unison | 1 | 1 | |
| Octave, 8ve | 2 | 1 | 60 |
| Fifth, 5th | 3 | 2 | 30 |
| Fourth, 4th | 4 | 3 | 20 |
| Sixth, greater | 5 | 3 | 15 |
| Third, greater | 5 | 4 | 12 |
| Third, lesser | 6 | 5 | 12 |
| Sixth, lesser | 8 | 5 | |
| | Grave Lengths. | Acute Lengths. | |

Mr. Carre, in the Memoirs of the Royal Academy of Paris, lays down a general proposition to determine the proportion of cylinders that are to form the concords of music, namely, that the solid cylinders, whose sounds produce those concords, are in a triplicate and inverse ratio of that of the numbers, which denote the same concords.

Concords are divided into original or simple, and compound. An original or simple concord is that whose extremes are less remote than the sum of any other two concords. A compound concord is equal to two or more concords.

Other musical writers state the division

Simple concords.

Compound concords

Octave composed.

| | | | | |
|------------------|-----------|---------------------|--------|-------------------|
| 5 : 6 a 3d less. | 5th. | 3d gr. and 3d less. | } of { | 5th. 4th. or 6th. |
| 4 : 5 a 3d gr. | 6th less. | 4th and 3d less. | | gr. 3d less, or |
| 3 : 4 a 4th. | 6th gr. | 4th and 3d gr. | | 3d gr. 3d less. |

The octave is not only the first concord in point of perfection, the agreement of whose extremes is greatest, and the nearest to unison, so that when sounded together, it is impossible to perceive two different sounds; but it is likewise the greatest interval of the seven original concords, and, as such, contains all the lesser, which derive their sweetness from it, as they more or less directly rise out of it, and which gradually decrease from the octave to the lesser sixth, having but a small degree of concord.

The manner in which these concords are found in the octave, shews their mutual dependencies: for taking an harmonical and arithmetical mean between each extreme and the most distant of the two means last found; to wit, betwixt the lesser extreme and the first arithmetical mean, and betwixt the greater extreme and the first harmonical mean, we have the lesser concords. Thus, if betwixt 360 and 180, the extremes of the octave, you take an arithmetical mean, it is 270, and an harmonical mean is 240. Then betwixt 360, the greatest extreme, and 240, the harmonical mean, take an arithmetical mean, it is 300; and an harmonical mean is 288. Again, between 180, the lesser extreme of the octave, and 270, the first arithmetical mean, it is 225, and an harmonical one 216.

Thus we have a series of all the concords, both ascending towards acuteness, from a common fundamental 360; and descending towards gravity, from a common acute term 180: which series has

thus: an octave 1:2, and all the inferior concords above expressed, are simple ones; and all greater than an octave, are compound concords, as being composed of and equal to the sum of one or more octaves, and some single concord less than an octave; and are usually, in practice called from that simple concords.

As to the composition and relations of original concords, by applying to them the rules of addition and subtraction of intervals, they will be divided into simple and compound, according to the first and more general notion; as in the following table.

this property, that taking the two extremes, and any other two at equal distances, the four will be in a geometrical proportion.

The octave, by immediate division, becomes a fourth and fifth; the fifth, again, by immediate division, produces the two thirds; the two thirds are therefore found by division, tho' not immediately, and the same is true of the two sixths. Thus all the original concords arise from the division of the octave; the fifths and fourths immediately, the thirds and sixths mediately. From the perfection of the octave, it may be doubled, tripled, &c. and yet preserve a concord; that is, the sum of two or more octaves is concord, tho' the more compound will be gradually less agreeable: but it is not so with any other concord less than an octave, the doubles, &c. whereof are all discords.

Again, whatever sound is concord to one extreme of the octave, is concord to the other also; and, if you add any other simple concord to an octave, it agrees to both its extremes; to the nearest, being a simple concord, and to the farthest a compound one.

The greatest number of the vibrations of the fundamental, it is to be further observed, cannot exceed five, or there is no concord where the fundamental makes more than five vibrations to one coincidence of the acute term.

CONCORDANCE, a sort of dictionary of the bible, explaining the words thereof in alphabetical order, with the several books, chapters

chapters, and verses quoted, in which they are contained.

Cardinal Hugo, who lived in the thirteenth century, is said to be the first author of those concordances. Erithemius says, that, during the council of Basil, John of Ragusa, and afterwards Walter the Scotman, and last of all John of Segovia, finished the work of concordances, and put them into the condition wherein

we now see them finished. We forbear to mention the concordances published in several languages, they being almost numberless.

CONCORDANT VERSES, are such as have several words in common, but which, by the addition of other words, convey an opposite or at least a very different meaning; as,

*Et { canis } in sylva { venatur } & omnia { servat. }
 { lupus } { nutritur } { vastat. }*

CONCORDAT, in the canon law, a covenant or agreement in some beneficiary matter, as relating to a resignation, permutation, or other ecclesiastical cause.

This word is used, absolutely, among the French for an agreement between pope Leo I. and Francis I. of France, for regulating the manner of nominating to benefices.

CONCORDAT GERMANIC, is that made between pope Nicholas V. and the emperor Frederic III. and the princes of Germany relating to beneficiary matters.

CONCORDAT also serves instead of the pragmatic sanction, which had been abrogated; or rather it is the pragmatic sanction, softened and reformed.

CONCORDIA, in geography, a town of the dutchy of Mantua, in Italy, about fifteen miles south east of the city of Mantua: east longitude $11^{\circ} 26'$, and north latitude 45° .

CONCOURSE, or **CONCURRENCE**, the reciprocal action of various persons or things, co-operating towards the same effect.

Thus some hold that the concurrence, or concurrence of the sun and stars, are necessary for the production of all sublunary things; and most divines maintain, that the actions and operations of all creatures, are continually dependent on the immediate concurrence of the divine mind, who concurs to give second causes their efficacy, which without his influence they are destitute of. See the article **CAUSE**. Concurrence is, by schoolmen, distinguished into two kinds, *viz.* mediate, which consists in giving a power or faculty to act; and immediate, which is a contemporary influence of the cause, along with another, to produce an effect: thus the grandfather concurs mediately to the production of a grandson, but the father concurs immediately with the mother, to the production of the same child.

Point of CONCOURSE. See **FOCUS**.

CONCRETE, in the school-philosophy,
Vol. I.

an assemblage or compound. See the article **COMPOUND**.

CONCRETE, in natural philosophy and chemistry, signifies a body made up of different principles, or any mixed body: thus soap is a factitious concrete, or a body mixed together by art; and antimony is a natural concrete, or a mixed body, compounded in the bowels of the earth.

CONCRETE, in logic, is used in contradistinction to abstract; for example, when we consider any quality, as whiteness, inhering in any subject, as, suppose, in snow; if we may say the snow is white, then we speak of whiteness in the concrete: but if we consider whiteness by itself, as a quality that may be in paper, in ivory, and in other things, as well as in snow, we are then said to consider, or to take it in the abstract. See the article **ABSTRACT**.

CONCRETE NUMBERS, are those which are applied to express or denote any particular subject, as two men, three pounds, two thirds of a shilling, &c. whereas if nothing be concreted with the number, it is taken abstractly, or universally. Thus, three signifies an aggregate of three unites; let these unites be men, pounds, or whatever else you please.

CONCRETION, the uniting together several small particles of a natural body into sensible masses, or concretes, whereby it becomes so and so figured and determined, and is indued with such and such properties. See **CONCRETE**.

CONCRETION is also the act whereby soft bodies are rendered hard; or an insensible motion of the particles of a fluid, or soft body, whereby they come to a consistence. It is indifferently used for induration, condensation, congelation, and coagulation.

CONCUBINAGE, denotes sometimes a criminal or prohibited commerce between the sexes; in which sense it comprehends adultery, incest, and simple fornication: but, in a more limited sense, it signifies

4 Y the

the cohabitation of a man and a woman in the way of marriage, without having passed the ceremony thereof.

However concubinage might be dispensed with among the Jews, Turks, and Heathens; among Christians, if polygamy be prohibited, this practice must be prohibited too; and yet it is observable, that the clergy in this kingdom, and other parts of Christendom, who submitted to the jurisdiction of the pope, were for some time indulged in keeping concubines, tho' they were absolutely prohibited to marry; and when the clergy of England were restrained from both, by the 31st Henry VIII. c. 14. it was made much more penal to keep a wife than a concubine; for the former was felony, without benefit of clergy, when, by the latter, the priest only incurred the loss of his goods and preferments.

CONCUBINAGE is also used for a marriage performed with less ceremony than is the usual practice; or a marriage with a woman of inferior condition, to whom the husband does not communicate his rank or quality.

The antient laws allowed a man to espouse, under the denomination of concubines, certain persons esteemed inferior to him; which state of the concubines, though beneath marriage, was yet accounted a reputable one: the commerce was esteemed lawful, and the concubine might be punished for adultery, in like manner as the wife. This kind of concubinage is still practised in some countries, particularly in Germany, under the title of half marriage, by which the parties are bound for ever. See the article **MARRIAGE**.

CONCUBINE, a woman whom a man takes to cohabit with in the manner of a wife, without being authorised thereto by a legal marriage.

CONCUBINE is also used for a legitimate, and only wife. See **CONCUBINAGE**.

Among the Romans, inheritances descended to children sprung from such concubines. Concubines, among the Greeks, were usually women taken captive, or bought with money, and were always inferior to lawful wives, whose dowery or parentage gave them the pre-eminence. It appears, that among the Jews, a concubine had not only oftentimes the same appellation, but, in the most important instances, was upon the same level with a wife: nor does there seem to be any difference made between

the sons of the wife and the concubine. The Turks still make too little distinction between a wife and a concubine, that whoever first has a son, such son is entitled to all privileges and advantages of an eldest son.

CONCUPISCENCE, according to divines, an irregular appetite, or lust after carnal things, inherent in the nature of man ever since the fall.

Concupiscence, according to Malebranche, is a natural effort made by the traces of the brain on the mind, in order to attach it to sensible things: the origin of concupiscence he ascribes to those impressions made on the brain of our first parents at their fall, which are still transplanted and continued to those of their children; and he ascribes the dominion or prevalence of concupiscence to original sin.

CONCURRENCE, or **CONCOURSE**. See the article **CONCOURSE**.

CONCURRING, or **CONGRUENT FIGURES**, in geometry, those which being laid upon one another, exactly correspond and cover each other, and therefore are equal.

COND, **CON**, or **CONN**, in the sea-language, to guide or direct the ship to her right course, by giving directions to the man at the helm how to steer. See the article **STEERING**.

The man that cons the ship directs him at the helm in these terms: *Starboard, or port the helm*; that is, put the helm to the right or left of the ship, and then the ship will go to the larboard or starboard; for the ship always sails contrary to the helm. *Right the helm, or helm a midship*; that is, keep it right up, or in the midships, when it is required the ship should go right before the wind. *Ease the helm, no near, bear up*; that is, let her fall to leeward, or sail more large, or more before the wind. *Steady as you go*; that is, keep her upon the same point. *Keep thus! thus!* that is, let her go just as she is. Other directions, much to the same purpose, importing chiefly to keep the ship near the wind, are, *aloof, keep your loof, fall not off, veer no more, keep her to, touch the wind, have a care of the lee lurch*.

CONDE, a town of the french Netherlands, in the province of Hainault, situated on the river Scheld, about twelve miles west of Mons: east long. 3° 40', and north lat. 50° 35'.

CONDECEDO, or *Cape CONDECEDO*, a pro-

promontory of north America, in the province of Yucatan, about 100 miles west of Merida: west long. 93°, and north lat. 21°.

CONDEMNATION, the act of giving judgment, passing or pronouncing sentence against a person, subjected thereby to some penalty or punishment, either in respect of life, reputation, or fortune. See **SENTENCE** and **PUNISHMENT**.

CONDENSATION, the act whereby a body is rendered more dense, compact, and heavy.

Hence condensation stands opposed to dilatation, or rarefaction; which latter renders the body lighter and looser, by setting the parts further asunder; whereas the former brings them closer to each other, and increases their contact.

Condensation is, by most writers, distinguished from compression, in regard the latter is performed by some external violence, whereas the former is the action of cold. See **COLD** and **COMPRESSION**.

There has been no body yet found, however dense and compact, but cold renders still denser, not even excepting diamonds, the hardest of all known bodies; and as the degree of cold increases, this contraction is also increased: the former contraction still decreasing, as the cold is less. Water alone seems to expand by cold, inasmuch that, when congealed, the ice takes up more space than the water did before: but this is attributed to the intromission of some foreign matter, such as the particles of the ambient air, rather than to any proper expansion of the water, by the action of cold.

If air be condensed upon water in a bottle, it will cause it to spout through the tube of communication to a very great height, *viz.* 30 feet, if only one atmosphere be injected, 60 if two, and so on. A bladder that will sustain the spring of common air, will be broke by condensed air. See the next article.

CONDENSER, a pneumatic engine, or syringe, whereby an uncommon quantity of air may be crowded into a given space; so that sometimes ten atmospheres, or ten times as much air as there is at the same time, in the same space, without the engine, may be thrown in by means of it, and its egress prevented by valves properly disposed. See plate XLII. fig. 8. It consists of a brass cylinder, wherein is a moveable piston; which being drawn out, the air rushes into the cylinder thro' a hole provided on purpose; and when

the piston is again forced into the cylinder, the air is driven into the receiver through an orifice, furnished with a valve to hinder its getting out.

The receiver or vessel containing the condensed air, should be made very strong, to bear the force of the air's spring thus increased; for which reason they are generally made of brass: its orifice is fitted with a female screw to receive the male screw at the end of the condenser.

If glass be used for a condenser, it will not suffer so great a degree of condensation; but the experiment will be more entertaining, since the subject may be viewed in the condensed air.

CONDERS, a term used in the herring fishery, for people who stand on cliffs or eminences near the sea-coast, to direct the fishermen which way the shoal of herrings passes; their course being more conspicuous to those who stand on high cliffs ashore, than to them on board the vessels.

CONDITION, in the civil law, a clause of obligation stipulated as an article of a treaty or contract; or in a donation of testament, legacy, &c. in which last case a donee does not lose his donative, if it be charged with any dishonest or impossible conditions.

The conditions under which a donation can be made, are distinguished into three kinds, 1. The casual, which depends merely on chance. 2. The potestative, which is absolutely in our power; and, 3. The mixed condition, which is compounded of the other two.

CONDITION, in common law, a restriction annexed to an act, qualifying or suspending the same, in rendering its effect precarious and uncertain.

There are various kinds of conditions, *viz.* condition in deed, condition precedent and subsequent, condition in law, &c.

CONDITION in deed, the bridge annexed to a feoffment, lease, or grant, either in writing or without.

CONDITION precedent gains the thing, or estate made upon condition, by the performance of it.

CONDITION subsequent keeps and continues the thing, made upon condition, by the performance of it.

CONDITION in law, or **CONDITION implied**, is when a person grants an office to another, as keeper of a park for life; tho' there be no condition expressed in the grant, yet the law makes one covertly, which is, that if the grantee does not

execute all things belonging to his office, it shall be lawful for the granter to discharge him.

CONDITIONAL, something not absolute but subject to conditions. See the preceding article.

Conditional legacies are not due till the conditions are accomplished.

CONDITIONAL CONJUNCTIONS, in grammar, are those which serve to make propositions conditional. As, *if, unless, provided, &c.*

CONDITIONAL PROPOSITIONS, in logic, such as consist of two parts connected together by a conditional particle.

CONDITIONAL SYLLOGISM, a syllogism where the major is a conditional proposition. Thus,

If there is a God, he ought to be worshipped.

But there is a God ;

Therefore he ought to be worshipped.

The arminian divines maintain, that all the decrees of God relating to the salvation and damnation of man, are truly conditional; and the calvinists, that they are absolute.

Science of conditionals, that is, of conditional truths, is the knowledge which God has of things considered not according to their essence, their nature, or their real existence, but under a certain supposition which imports a condition never to be accomplished.

CONDOM, the capital of the Condomois, in the province of Gascony, in France, about sixty miles south-east of Bourdeaux. It is a bishop's see, situated in 20° east longitude, and 44° 5' north latitude.

CONDORÉ or **PULO CONDORÉ**, a little island in the indian ocean, about sixty miles south of Cochin China: east longitude 106° 30', and north lat. 9° 30'.

CONDORMIENTES, in church history, religious sectaries, who hold their name from lying altogether, men and women, young and old. They arose in the thirteenth century near Cologne, where they are said to have worshipped an image of Lucifer, and to have received answers and oracles from him.

Another species of condormientes, were a branch of anabaptists in the sixteenth century; so called, because they lay several of both sexes in the same chamber on pretence of evangelical charity.

CONDUCT, or *safe* **CONDUCT**, a deed or security granted to an enemy, under the great seal of a prince, that he may pass and repass without being molested.

CONDUCTOR, in surgery, an instrument which serves to conduct the knife in the operation of cutting for the stone, and in laying open sinuses and fistulas. It is also called a gorget. See the article **STONE**.

CONDUCTORS, in military affairs, are assistants given to the commissary of the stores to receive or deliver out stores to the army, to attend at the magazines by turns when in garrison, and to look after the ammunition waggons in the field. They bring their accounts every night to the commissary, and are immediately under his command.

CONDUCTOS AD PROFICISCENDUM. See **CAPIAS CONDUCTOS**, &c.

CONDUIT, a canal or pipe for the conveyance of water, or other fluid.

There are several subterraneous conduits through which the waters pass that form springs. Artificial conduits for water are made of lead, stone, cast-iron, potters earth, timber, &c. See **PIPE**.

Conduits for conveying away the sullage of a house, Sir H. Wotton says, should be placed in the most remote and lowest part of the foundation, with secret vents passing up through the wall like a funnel, to the wide air, which all italian artists commend for the discharge of noisome vapours.

CONDYLOMA, or **CONDYLUS**, in anatomy. See the article **CONDYLUS**.

CONDYLOMA, in medicine, a tubercle or callous eminence which arises in the folds of the anus, or rather a swelling or hardening of the wrinkles of that part.

Condylomata proceed from a redundant and vitiated blood stagnating in the hæmorrhoidal vessels, and are often the effect of venereal ailments. Their cure depends on mercurial unctions, and proper escharotics to consume them; though extirpation either by ligature or incision, if the nature of the part will admit, is the most expeditious. It very often happens that a salivation is necessary, in order to facilitate and complete the cure.

CONDYLUS, a name given by anatomists to a knot in any of the joints formed by the epiphysis of a bone. In the fingers it is called a knuckle.

CONDYLUS, in botany, signifies the joints of plants.

CONE, in geometry, a solid figure, having a circle for its base, and its top terminated in a point or vertex.

A cone may be conceived to be generated in the following manner. Take an immoveable point A (plate XLIX. fig. 5. N°. 1.)



Fig. 1. ELLIPTIC COMPASSES.

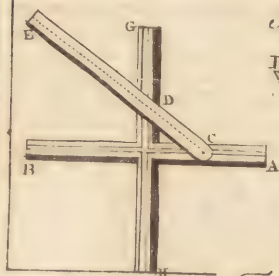


Fig. 2. COMPLEMENT.

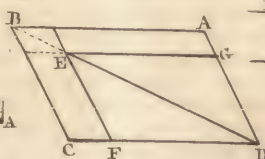


Fig. 3. CONCHOID.

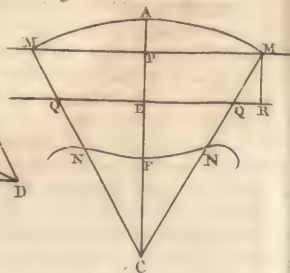


Fig. 4. COMPOSITION of MOTION.

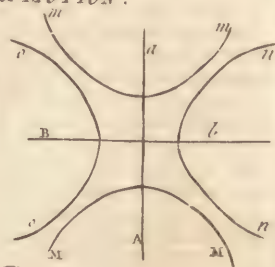


Fig. 7. CONJUGATE.

Fig. 5. CONE.

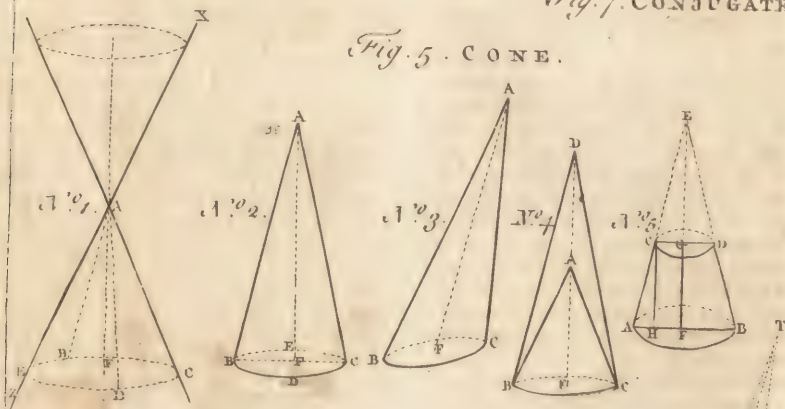
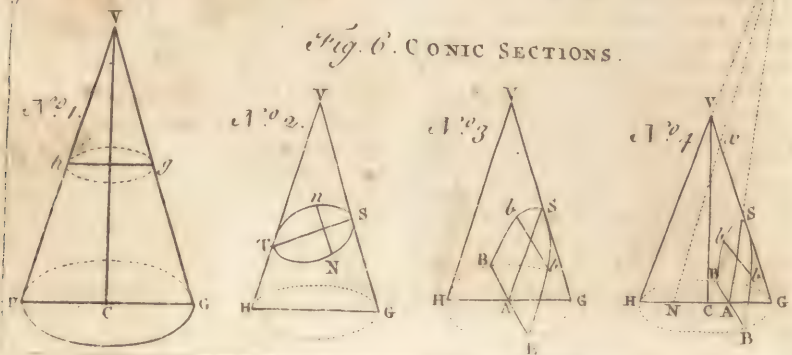


Fig. 6. CONIC SECTIONS.



N^o. 1.) elevated above the plane of a circle BCDE, and suppose a straight line XZ drawn through the point and extended both ways from it to an indefinite length, to be carried quite round the circle, all the while touching its circumference, and continuing still fixed to the immoveable point; the line by this motion will describe two conic surfaces, which are vertical or opposite, having their common vertex at the immoveable point.

The solid contained within this conic surface, between the immoveable point A and the circumference of the circle BCDE, is a cone: the immoveable point A is the vertex, the circle BCDE is the base: and a straight line AF drawn from the vertex to the center of the base, is the axis of the cone: all straight lines drawn from the vertex to the circumference of the base, as AB, AC, AD, AE, &c. are sides of the cone. If the axis of a cone be perpendicular to its base, it is called a right cone, as in N^o. 2. if the axis be inclined to the base, it is called a scalinous or oblique cone, such as that in n^o. 3, and a right cone is always understood, when the contrary is not expressed.

Euclid, in his eleventh book, gives a definition of a cone that is not general, it being only of a right cone; for he says, a cone is produced by the revolution of the plane of a right angled triangle, about the perpendicular leg remaining at rest. If this leg or axis be greater than half the base, the solid produced is an acute angled cone; if less, it is an obtuse angled cone; and if equal, a right angled cone. Thus the cone BAC (*ibid.* n^o. 4.) is less acute than the cone BDC, because the angle BDF, is less than the angle BAF.

Properties of the CONE. 1. Cones and pyramids having the same bases and altitudes are equal to each other. It is shewn, that every triangular prism may be divided into three equal pyramids, and therefore that a triangular pyramid is one third of a prism standing on the same base, and having the same altitude. Hence, since every multangular body may be resolved into triangular ones, every pyramid is the third part of a prism, standing upon the same base, and having the same altitude; and as a cone may be esteemed an infinite angular pyramid, and a cylinder an infinite angular prism,

a cone is a third part of a cylinder which has the same base and altitude. Hence we have a method of measuring the solidity and surface of a cone and pyramid. Thus, find the solidity of a prism or cylinder, having the same base with the cone or pyramid, which found divide by 3, the quotient will be the solidity of the cone or pyramid. Or the solidity of any cone is equal to the area of the base multiplied into one third part of its altitude. As for the surfaces, that of a right cone, not taking in the base, is equal to a triangle whose base is the periphery and altitude the side of the cone; therefore the surface of a right cone is had by multiplying the periphery of the base into half of the side, and adding the product to that of the base.

2. The altitudes of similar cones are as the radii of the bases, and the axes likewise are as the radii of the bases, and form the same angle with them. 3. Cones are to one another in a ratio compounded of their bases and altitudes. 4. Similar cones are in a triplicate ratio of their homologous sides, and likewise of their altitudes. 5. Of all cones standing upon the same base, and having the same altitude, the superficies of that which is most oblique is the greatest, and so the superficies of the right cone is the least; but the proportion of the superficies of an oblique cone to that of a right one, or which is the same thing, the comparison thereof to a circle, or the conic sections, has not yet been determined.

To measure the surface and solidity of a truncated CONE ABCD, (ibid. n^o. 5.) the altitude CH and the diameters of its bases AB and CD being known, find their circumferences. To the square of the altitude CH, add the square of the same difference of the radii AH, and from the aggregate extract the square root, which will give the side AC, and the semisum of the peripheries, multiplied by the side AC gives the superficies of the truncated cone.

For the solidity, say, As the difference of the semidiameters, AH, is to the altitude of the truncated cone, CH, so is the greater semidiameter, AF, to the altitude of the intire cone, FE. This being found, subtract the altitude of the truncated cone GF, which will leave that of the cone taken off, GE. Find the solidity of the cones CED and AEB; subtract the former

former from the latter, and the remainder will be the solidity of the truncated cone ACDB.

For the sections of the cone, see the article CONIC SECTION.

Center of gravity and oscillation of a cone. See the article CENTER.

CONES of the higher kinds, those whose bases and sections parallel to the bases, are circles of the higher kinds. They are generated by supposing a right line fixed in a point, on high, but conceived to be capable of being extended more or less on occasion, and moved round the periphery of a circle. See the article CIRCLE.

CONE of rays, in optics, includes all the several rays which fall from any radiant point on the surface of a glass. See the article RAY.

CONE and **KEY**, among the antient Saxons, was when a woman at the age of 14 or 15, took upon her the charge of her house, and received cone and key; she being then held of competent years to keep the accounts and keys of the house.

CONESSI, a sort of bark of a tree which grows on the Cormandel-coast, in the East-Indies. It is recommended in a letter to Mr. Monro, in the Medical Essays, as a specific in diarrhoeas. It is to be pounded into a fine powder, and made into an electuary with syrup of oranges; and the bark should be fresh, and the electuary new made every day, or second day, otherwise it loses its astringent but grateful bitterness on the palate, and its proper effects on the intestines.

CONFARRATION, in antiquity, a ceremony observed by the Romans in certain nuptial solemnities. Ulpian says, it consisted in the offering up some pure wheaten bread, rehearsing at the same time a certain formula, in presence of ten witnesses. According to Servius, the Pontifex Maximus and Flamen Dialis, joined the man and woman by making them eat of the same cake of salted bread, Confarration was the most sacred of the three manners of contracting marriage among the Romans.

CONFECTION, in pharmacy, signifies in general any thing prepared with sugar: in particular it imports something preserved, especially dry substances.

CONFECTION also signifies a liquid or soft electuary, of which there are various sorts directed in dispensatories, but those ordered in the London Dispensatory are the following. 1. The confection of Hammech, the ingredients of which are po-

lypody, myrobalans, agaric, senna, tammarinds, red roses, manna, colocynth. It is applied as a drastic in purging the grosser humours and viscidities. 2. The cordial confection, which is a substitute for the operose confectio raleighana, composed of a tincture drawn with proof spirit from the lesser cardamom seeds, zedoary and saffron, fresh rosemary tops, and juniper berries, to which is afterwards added the compound powder of crab's claws, cinnamon, nutmeg, cloves and double refined sugar. 3. The confection, called paulina, consists of coltus, cinnamon, long pepper, black pepper, strained storax, strained galbanum, strained opium. Russia-castor. 4. Confectio Damocratis. See MITHRIDATE. 5. Confectio Fracastorii. See the article DIASCORDIUM.

6. Confectio Alkermes. See ALKERMES.

CONFECTOR, in roman antiquity, a sort of gladiator hired to fight in the amphitheatre against beasts, thence also denominated bestiarius.

According to some, the confector did not fight with beasts like the bestiarius, but was sent on purpose to dispatch them whenever they became so wild (which was often the case) as to threaten the lives of the spectators.

CONFECTS, a denomination given to fruits, flowers, herbs, roots, &c. when boiled and prepared with sugar or honey, to dispose them to keep, and render them more agreeable to the taste. Solid saccharine simple confects, are prepared after the following manner. The sugar being first well clarified with pure water and the white of an egg, is boiled to a consistence a little thicker than that of a syrup. Then the thing which is to be preserved is put into a large copper-vessel, flat bottom, placed upon a gentle fire; and when it is moderately heated, together with its contents, the artist sprinkles some of the liquid sugar, before prepared, somewhat warm upon the things in the vessel, just enough to moisten them, and immediately stirs them to and fro, shakes them, and tosses the vessel in such a manner as to prevent the seeds, or whatever else it may be, from clustering together. Then they are to be totally dried by a gentle coal-fire under the vessel. After this, as much dissolved sugar is to be added to the thing as is sufficient to moisten it moderately, and continuing the agitation, &c. it is to be dried. This operation is to be repeated, moistening and drying

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the materials by turns, till they are sufficiently covered with sugar. Confectioners, however, prepare things with greater ease, and in order to be able to sell them at a lower rate, they add starch to the dissolved sugar, by which means they not only dry them sooner, but also render them sufficiently large at a small expence. To make confects red, infuse some red saunders in the water, or cochineal, or syrup of mulberries. If you would have them green, boil the juice of spinage with the sugar; if yellow, put saffron in the water you mix with the sugar.

Confects are reduced to eight kinds, *viz.*

1. Dry confects. 2. Sugar-plums. 3. Liquid confects, those whose fruits, either whole, in pieces, in seeds, or in clusters, are connected in a fluid, transparent syrup, which takes its colour from that of the fruits boiled in it. 4. Marmalades. 5. Jellies. 6. Pastes. 7. Conerves. 8. Candies. See the articles MARMALADE, PASTE, &c.

CONFEDERACY, in a general sense, a league or alliance between several princes and states, to carry on a common cause.

CONFEDERACY, in law, is when two or more combine together, to do some damage or injury to another, or to commit some unlawful action.

Confederacy is punishable if nothing be put in execution; but this must be declared by some matter of prosecution, as entering into bonds or promises the one to the other: the confederacy must also be malicious, and against an innocent person.

CONFERVA, in botany, a genus of water-plants, of the cryptogamia class, and order of mosses; consisting of oblong, capillary filaments, divided into joints of a globular figure.

CONFESSION, in a legal sense, an acknowledgment of some truth, though in prejudice of the person that makes the declaration. A confession, according to law, must never be divided, but always taken intire; nor must a criminal be condemned upon his own single confession, without other concurring proofs. A person is not admitted to accuse himself, whence a voluntary extrajudicial confession is never allowed of as any proof.

CONFESSION, among divines, the verbal acknowledgment which a christian makes of his sins.

Among the Jews, it was a custom, on the annual feast of expiation, for the

high priest to make confession of sins to God in the name of the whole people: besides this general confession, the Jews were enjoined, if their sins were a breach of the first table of the law, to make confession of them to God: but violations offered the second table were to be acknowledged to their brethren. The confessions of the primitive christians were all voluntary, and not imposed on them by any laws of the church; yet private confession was not only allowed, but encouraged.

The romish church requires confession, not only as a duty, but has advanced it to the dignity of a sacrament: this confession is made to the priest, and is private and auricular; and the priest is not to reveal them under pain of the highest punishment.

CONFESSION of faith, a list of the several articles of belief in any church, as the Augsburg confession is that of the lutheran church.

CONFESSIONAL, or **CONFESSIONARY**, a place in churches, under the great altar, where the bodies of deceased saints, martyrs and confessors, were deposited. This word is also used by the romaniists for a desk in the church where the confessor takes the confessions of the penitents.

CONFESSO, or **PRO-CONFESSO**. See the article **PRO-CONFESSO**.

CONFESSOR, in the romish church, a priest who is empowered to receive the confession of penitents, and to give them absolution. See **CONFESSION**.

In the primitive times, those christians, in general, who had suffered for the sake of their religion, and, in particular, those who had made a public confession of their faith before the heathen magistrates, were honoured with the name of confessors.

CONFIGURATION, the outward figure which bounds bodies, and gives them their external appearance; being that which, in great measure, constitutes the specific difference between bodies.

CONFIGURATION of the planets, in astrology, a certain situation of the planets in the zodiac, whereby they are supposed to aid or oppose each other.

CONFIRMATION, in a general sense, the act of ratifying or rendering a title, claim, report, or the like, more sure and indisputable.

CONFIRMATION, in law, a conveyance of an estate, or right in *esse*, from one man to

to another, whereby a voidable estate is made sure and unavoidable, or a particular estate is increased, or a possession made perfect.

It is also the strengthening of an estate formerly made, which is avoidable, though not presently void : as if a bishop was to grant his chancellorship by patent, for term of the patentee's life ; this is no void grant, but voidable by the bishop's death, except it be strengthened by the confirmation of the dean and chapter.

CONFIRMATION, in rhetoric, the third part of an oration, wherein the orator undertakes to prove the truth of the proposition advanced in his narration ; and is either direct or indirect.

Direct, confirms what he has to urge for strengthening his own cause. Indirect, properly called confutation, tends to refute the arguments of his adversaries.

CONFIRMATION, in theology, the ceremony of laying on of hands, for the conveyance of the holy ghost.

The antiquity of this ceremony is, by all ancient writers, carried as high as the apostles, and founded upon their example and practice. In the primitive church, it used to be given to christians immediately after baptism, if the bishop happened to be present at the solemnity. Among the Greeks, and throughout the East, it still accompanies baptism : but the romanists make it a distinct and independent sacrament. Seven years is the stated time for confirmation : however, they are sometimes confirmed before, and sometimes after that age. The person to be confirmed has a god-father and god-mother appointed him, as in baptism. The order of confirmation in the church of England, does not determine the precise age of the persons to be confirmed.

CONFISCATION, in law, the adjudication of goods or effects to the public treasury, as the bodies and effects of criminals, traitors, &c. Merchandizes that are prohibited, or brought aboard, or ashore, without paying the duties when seized, are confiscated.

He who is condemned to lose his life, must also lose his goods : yet the widows of criminals do not lose their dowries, nor their share in the goods of the community, by the forfeiture of their husbands. The title to goods, which are not claimed by any other, is given by law to the king.

CONFLAGRATION, the general burning of a city, or other considerable place.

This word is commonly applied to that grand period or catastrophe of our world, when the face of nature is to be changed by a deluge of fire, as formerly it was by that of water.

The sentiments of authors are various in regard to the cause whence the conflagration is to rise, and the effects it is to produce. Divines will have it take its rise from a miracle, as a fire from heaven ; but philosophers contend for its being produced from natural causes : some think an eruption of the central fire sufficient for the purpose ; others look for the cause in the atmosphere. The astrologers account for it from a conjunction of all the planets in the sign Cancer, as they say the deluge was occasioned by the conjunction in Capricorn : but others assure themselves that the world is to undergo its conflagration from the near approach of a comet in its return from the sun ; as these huge bodies, by the intensity of their heat, and their wandering transverse motion across the earth's orbit, threaten to produce the most signal changes and revolutions in the system of things. See the article **COMET**.

CONFLUENCE, or **CONFLUX**, among geographers, the place where two rivers unite their streams. See **RIVER**.

CONFLUENT, among physicians, &c. an appellation given to that kind of small-pox wherein the pustules run into each other. See the article **POX**.

CONFORMATION, the particular consistence and texture of the parts of any body, and their disposition to compose a whole.

CONFORMATION, in medicine, that make and construction of the human body, which is peculiar to every individual.

Hence those diseases called *morbi male conformationis*, or organical diseases, are those which depend upon the bad conformation of the parts. These, if external, may admit of chirurgical cure ; and proper exercise, regimen, and medicine, may sometimes contribute much to the relief even of those which are internal, or, at least, may render them supportable.

CONFORMITY, among schoolmen, the relation of agreement between one thing and another ; as that between any thing and the division thereof, the object and the understanding, &c.

CONFRONTATION, the confronting or bringing two or more persons in presence of each other, in order to discover the truth

truth of some fact, whereof they give different accounts.

CONFUSION, in a general sense, is when things prior in nature do not precede, or posterior do not follow : or a perturbation of order.

CONFUSION, in physic, a disorder of the eyes, that happens when, upon a rupture of the internal membranes which include the humours, they are all confounded together.

CONFUTATION, in rhetoric, making a branch of confirmation, is that part of an oration wherein the orator seconds his own arguments, and destroys those produced by his antagonist. See the article **CONFIRMATION**.

CONGE', in the french law, a permission granted by a superior to an inferior, freeing him from some duty with which, before, he was obliged to conform.

CONGE' d'lire, in ecclesiastical polity, the king's permission royal to a dean and chapter in the time of a vacancy, to choose a bishop; or to an abbey, or priory, of his own foundation, to choose their abbot or prior.

The king of England, as sovereign patron of all archbishoprics, bishoprics, and other ecclesiastical benefices, had of ancient time free appointment of all ecclesiastical dignities, whensoever they chanced to be void; investing them first *per baculum & annulum*, and afterwards by his letters patent; and in course of time he made the election over to others, under certain forms and limitations, as that they should, at every vacation, before they choose, demand the king's *congé d'elire*, and after the election, crave his royal assent, &c.

CONGE', in architecture, a mould in form of a quarter round, or a cavetto, which serves to separate two members from one another, such as that which joins the shaft of the column to the cincture, called also *apophyge*.

CONGES are also rings or ferrels formerly used in the extremities of wooden pillars, to keep them from splitting, afterwards imitated in stone-work.

CONGELATION, freezing, or such a change produced by cold in a fluid body, that it quits its former state, and becomes congealed.

We must observe, that the word conge-lation is only applied to homogeneous fluids, such as water, oils, or pingous substances, and fused metals, in which, besides a concretion in the cold air, no

change is observed. We must also observe that, by congelation, some bodies, such as water, are rarified and expanded : whereas others are condensed, or rendered more compact, such as fixed metals, and pingous bodies. In the shops, the condensation of any liquor in a cold place, is also called congelation. The stones produced in some caverns, from the drops of petrifying water, are also called congelations : for one method in which nature forms stones, is by such a congelation as does not suffer any thing of an earthly nature to be separated, or precipitated from the whole mass, either spontaneously, or by the action of fire; but produces an uniform driness and induration of the whole mass.

CONGER, in zoology, the name of a species of *muræna*, with the upper edge of the back-fin black, called in english the sea-eel. See the article *MURÆNA*.

The conger resembles the common eel, but is much larger, being frequently met with five or six feet long, and of the thickness of a man's thigh. Some give it the name of *congrus*, and others that of *gryllus*.

CONGERIES, a collection or aggregate of several particles, or bodies united into one mass.

CONGESTION, in medicine, a collection of humours, formed gradually; whereby it differs from defluxion, which is made on a sudden. See the article *DEFLUXION*.

CONGIARY, *congiarium*, in roman antiquity, a kind of donative of wine or oil, bestowed on that people by their emperors, and so called from the *congius*, wherewith it was measured out to them. Sometimes, indeed, the congiary was made in money or corn; and the medals struck on such occasions, are known by the same name.

CONGIUS, a liquid measure of the ancient Romans, containing the eighth part of the amphora, or the fourth of the urna, or six sextarii. The congius in english measure contains 207,0676 solid inches; that is, seven pints, 4,942 solid inches.

CONGLOBATE GLAND, in anatomy, a little smooth body, wrapt up in a fine skin, by which it is separated from all other parts, only admitting an artery and a nerve to pass in, and giving way to a vein and excretory canal to come out, of which sort are the glands of the brain and testes.

Winflow includes under the name of conglobate glands, the lymphatic glands alone, and calls all the other glands of the body by the name conglomerate. See the next article.

CONGLOMERATE GLAND, that which is composed of several little conglobate glands, all tied up together in one common tunicle or membrane. Sometimes all their excretory ducts unite, and make one common pipe, through which the liquor of them all runs, as the pancreas and parotides do. Sometimes the ducts uniting, form several pipes, which only communicate with one another by cross canals; and such are the mammæ: others again have several pipes without any communication with one another; of which sort are the glandulæ lachrymales, and prostaticæ; and a fourth sort, is when each little gland has its own excretory duct, through which it transmits its liquor to a common basin, as the kidneys.

CONGLUTINATION, the gluing or fastening any two bodies together by the intromission of a third, whose parts are unctuous and tenacious, in the nature of glue. See the article **GLUE**.

Thus, in the animal œconomy, the parts of the body are said to be conglutinated by means of their natural moisture.

CONGO, a large country on the western coast of Africa, between 10° and 20' east longitude, and between the equator and 18° south latitude; comprehending the countries of Loango, Angola, and Benguela. It is bounded by the kingdom of Benin on the north; by Mataman, a part of Caffraria, on the south; and by the Atlantic ocean, on the west; and is sometimes called the lower Guinea.

CONGREGATION, an assembly of several ecclesiastics united, so as to constitute one body; as an assembly of cardinals, in the constitution of the pope's court, met for the dispatch of some particular business.

These assemblies, being sixteen in number, are distributed into several chambers, after the manner of our offices and courts: the first whereof is the pope's congregation, whose business it is to prepare the most difficult beneficiary matters to be afterwards debated in the consistory: the second is the congregation of the holy office, or the inquisition: the third is the congregation *de propaganda fide*: the fourth is the congregation for explaining the council of Trent: the fifth is the con-

gregation of the index, deputed to examine into pernicious and heretical books: the sixth is the congregation of immunities, established to obviate the difficulties that arise in the judgments of such suits as are carried on against churchmen: the seventh is the congregation of bishops and regulars: the eighth is the congregation for the examination of bishops, &c.

CONGREGATION is also used for a company or society of religious, cantoned out of any order, so as to make a subdivision of the order itself; as the congregation of Cluny, &c. among the benedictines.

CONGREGATION is likewise used for assemblies of pious persons, in manner of fraternities.

CONGREGATION, in physics, is a term used by Dr. Grew for the lowest degree of mixtion; or that wherein the parts of the mixture do not adhere to each other, but only touch in a single point; that author being of opinion, that the particles of all fluids touch only in this manner: or that their cohesion amounts only to a congregation. See **COHESION** and **FLUID**.

CONGREGATIONALISTS, in church-history, a sect of protestants who reject all church government, except that of a single congregation. In other matters, they agree with the presbyterians. See the article **PRESBYTERIANS**.

CONGRESS, in political affairs, an assembly of commissioners, envoys, deputies, &c. from several courts meeting to concert matters for their common good.

CONGRESS, in a judicial sense, the trial made by appointment of a judge, before surgeons and matrons, in order to prove whether or no a man be impotent, before sentence is passed for the dissolution of a marriage, solicited upon such a complaint.

The trial of virility by congress had its origin in France, from the assurance of a man, who, being hard pressed by his wife, demanded the congress in open court. The judge finding it could not be denied, as it was the surest evidence the case could admit of, it was granted him, and obtained afterwards as a branch of the french jurisprudence for upwards of a hundred years: but it was annulled by arrest of parliament, as being found precarious; some having failed under the experiment, out of mere modesty and shame, which is found to have the same effect.

effect with actual impotency. Neither the civil nor canon law make any mention of this trial.

CONGRUITY, in the schools, a suitability or relation of agreement between things. The system of congruity in matters of grace consists in this, that God who knows perfectly the nature of grace, and the dispositions of the will in all the circumstances that shall befall a man, gives graces with which, by virtue of their congruity with the will of man considered in those circumstances, man will always infallibly, but not necessarily, do what God would have him do.

CONGRUITY, in geometry, is applied to figures, lines, &c. which being laid upon each other, exactly agree in all their parts, as having the very same dimensions.

CONGRUITY, among naturalists, a property relative to a fluid body, whereby any part of it is readily united with any other part, either of itself, or of any other similar fluid, or solid body. And incongruity is a property by which it is hindered from uniting with the solid or fluid body dissimilar to it. Thus quicksilver will stick to gold, silver, lead, tin, &c. and unite with them, but will roll off from wood, stone, glass, &c. and water, which will wet salt and dissolve it, will slip off from tallow without adhering to it, as also from a dusty surface, and from the feathers of water fowls.

CONI, a strong town of Piedmont, in Italy, situated upon the river Stura, thirty-two miles south of Turin, in $7^{\circ} 30'$ east long. and $44^{\circ} 25'$ north lat.

Coni was besieged by the French in 1744, but they were obliged to raise the siege on account of the great numbers of troops they lost in the attacks, and by the badness of the season.

CONIC-SECTIONS, curves formed from the section of a cone by a plane.

The curves that generally pass under the name of conic sections are three, *viz.* the ellipsis, parabola, and hyperbola; for tho' the triangle and circle are formed from the section of a cone, yet they are not usually considered in that capacity.

If a right cone be cut directly through its axis, the plane or superficies of that section will be a plain isosceles triangle as HVG, (plate XLIX. fig. 6. n^o. 1.) to wit, HV, and VG, the sides of the cone will be the sides of the triangle, HG the diameter of the cone's base will be the base of the triangle, and its axis VC will

be the perpendicular height of the triangle. See the article TRIANGLE.

If a right cone be cut any where off by a right line parallel to its base, the plane of that section will be a circle, because the base of the cone is a circle. Such is *bg*, *ibid.* See the article CIRCLE.

If a right cone be any where cut by a right line that cuts both its sides, but not parallel to its base as TS (*ibid.* n^o. 2.) the plane of that section will be an ellipsis, commonly called an oval; that is, an oblong or imperfect circle, having several diameters, and two particular centers. See ELLIPSIS and DIAMETER.

If any cone be cut into two parts by a right line parallel to one of its sides, as SA (*ibid.* n^o. 3.) the plane of that section, namely, S b BAB b, is called a parabola. See the article PARABOLA.

If a cone be any where cut by a right line either parallel to its axis, as SA (*ibid.* n^o. 4.) or otherwise, as xN, in such a manner that the intersecting line when continued through one side of the cone, as at S or x, will meet with the other side of the cone if it be continued beyond the vertex V, as at T, then is the plane of that section, namely, S b A A b b called an hyperbola. See HYPERBOLA. These five sections, namely, the triangle, circle, ellipsis, parabola, and hyperbola, are all the planes that can possibly be produced from a cone. But of them the three last, as we said above, are only called conic sections, both by antient and modern geometers.

From the genesis of these sections, it may be observed how one section degenerates into another. For an ellipsis being that plane of any section of the cone which is between the circle and parabola, it will be easy to conceive that there may be great variety of ellipsis produced from the same cone; and when the section comes to be exactly parallel to one side of the cone, then the ellipsis degenerates into a parabola. Now a parabola being that section whose plane is always exactly parallel to the side of the cone, cannot vary as the ellipsis may; for so soon as ever it begins to move out of that position of being parallel to the side of the cone, it degenerates either into an ellipsis or hyperbola. That is, if the section inclines towards the plane of the cone's base, it becomes an ellipsis; but if it incline towards the cone's vertex, it then becomes an hyperbola, which is the

plane of any section that falls between the parabola and the triangle: and therefore there may be as many varieties of hyperbolas produced from one and the same cone, as there may be ellipsis.

In short, a circle may change into an ellipsis, the ellipsis into a parabola, the parabola into an hyperbola, and the hyperbola into a plain isosceles triangle. And the center of the circle, which is its focus, divides itself into two focus's, so soon as ever the circle begins to degenerate into an ellipsis; but when the ellipsis changes into a parabola, one end of it flies open, one of its foci vanishes, and the remaining focus goes along with the parabola when it degenerates into an hyperbola. And when the hyperbola degenerates into a plain isosceles triangle, this focus becomes the vertical point of the triangle, namely, the vertex of the cone. So that the center of the cone's base may be truly said to pass gradually thro' all the sections until it arrive at the vertex of the cone, still carrying its latus rectum along with it. For the diameter of a circle being that right line which passes through its center or focus, and by which all other right lines drawn within the circle are regulated and valued, may be called the circle's latus rectum; and though it lose the name of diameter when the circle degenerates into an ellipsis, yet it retains the name of latus rectum with its first properties in all the sections, gradually shortening as the focus carries it along from one section to another, until at last both it and the focus become coincident, and terminate in the vertex of the cone. For the nature and properties of the ellipsis, parabola, and hyperbola, see each under its proper head.

The most celebrated treatises on conic sections, are those of Apollonius Pergæus, Mydorgius de Sectionibus Conicis. Gregory St. Vincent's Quadratura Circuli & Sectionum Coni, De la Hire's Opus de Sectionibus Conicis, De Witt's Elementa Curvarum, Dr. Wallis's Conic section; De l'Hospital's analytical Treatise of conic sections and their use, Milne's Elementa Sectionum Conicarum novâ methodo demonstrata, Mr. Simpson's and Mr. Muller's Conic sections, &c.

CONICHYDONTES, or **PLECTRONITÆ**, in natural history, one of the three names the fossile teeth of fishes are known by.

Tho' authors assure us that these are the teeth of a fish, the jaws having been found with these bodies in them, yet they do not pretend to know to what fish they belong. They are generally of an oblong conic figure, broad at the base, and narrower at the point, where they are usually a little crooked: they are hollowed at the root, and are from the tenth of an inch to two inches long, commonly of a chestnut colour, and are found in the strata of clay, but most usually in those of stone; and seen more frequent in England, than in any other part of the world.

CONIFEROUS TREES, in gardening, such as bear hard, dry seed-vessels, of a conical figure, consisting of several woody parts, being mostly scaly, adhering closely together, and separating when ripe.

Of this sort is the cedar of Lebanon, fir, pine, &c.

CONINGSECK, the capital of a county of the same name in the circle of Swabia, in Germany, about twenty miles north of Constance: east long. $9^{\circ} 23'$, north lat. $47^{\circ} 50'$.

CONJOINT, or **CONJUNCT**, is applied, in the antient music, in the same sense as consonance. See **CONSONANCE**.

CONJOINT DEGREES, two notes which follow each other immediately in the order of the scale, as *ut* and *re*. See the article **SCALE**.

CONJOINT TETRACHORDS, two tetrachords, or fourths, where the same chord is the highest of one, and the lowest of the other. See the article **CHORD**.

CONISOR, or **COGNISOR**, in law, is used in the passing of fines for him that acknowledges the fine. See **FINE**.

He to whom the fine is acknowledged, is the cognizee.

CONISSALÆ, in natural history, a class of fossils, naturally and essentially compounded, not inflammable, nor soluble in water, found in detached masses, and formed of crystalline matter debased by earth.

Of this class there are two orders, and of each of these only one genus. Conissalæ of the first order, are found in form of a naturally regular and uniform powder, all the genuine particles of which are nearly of one determinate shape, appearing regularly concreted, and not fragments of others once larger. Conissalæ of the second order, are found in form of a rude, irregular, and shapeless powder, the particles of which are never

of

of any determinate particular figure, but seem broken fragments of some once larger masses.

To the former genus belong the different kinds of sand; and to the latter, the saburræ, or grits. See SABURRÆ and SAND.

CONISTERIUM, *κονιστήριον*, in grecian antiquity, a place within the area of the palæstra, or gymnasium, where the dust, with which they besprinkled those that had been anointed for wrestling, was kept.

CONJUGATE DIAMETER, or *axis of an ellipsis*, the shortest of the two diameters, or that bisecting the transverse axis. See the article AXIS.

CONJUGATE HYPERBOLA'S. If there be two opposite hyperbolas A M, *am*, plate XLIX. fig. 7. whose principal axis is the line A a, and conjugate axis the line B b; and if there be two other hyperbola's whose principal axis is the line B b, and conjugate one the line A a; then those four hyperbola's are called conjugate hyperbola's: the two former opposite one's being conjugates to the latter. See AXIS, HYPERBOLA, and CONIC-SECTIONS.

CONJUGATION, in grammar, a regular distribution of the several inflexions of verbs in their different voices, moods, tenses, numbers and persons, so as to distinguish them from one another.

The Latins have four conjugations, distinguished by the terminations of the infinitive *āre*, *ēre*, *ĕre*, and *īre*; the vowels before *re* of the infinitive in the first, second, and fourth conjugations being long vowels, and that before *re* in the infinitive of the third being a short one. See the article VOWEL.

The English have scarce any natural inflexions, deriving all their variations from additional particles, pronouns, &c. whence there is scarce any such thing as strict conjugations in that language. See the article MOOD.

The french grammarians reduce the number of conjugations in their language to that in the Latin, and these terminating in *er*, *re*, *ir*, and *oir*.

CONJUGATION, in anatomy, is applied to a pair of nerves arising together, and serving the same operation, sensation, and motion. See the article CONJOINT.

CONIUM, HEMLOCK, in botany, a genus of the pentandria-digynia class of plants, the flower whereof is compound; the particular ones consisting of five unequal and

cordated petals: the fruit is roundish, striated, and divisible into two parts, containing two seeds, plain on the one side, and convex on the other.

This is the cicuta of other authors, or the common hemlock, which till very lately was rejected from all inward use in medicine, on account of its poisonous qualities; but the extraordinary virtue and efficacy of this plant, used as well internally as externally, in the cure of cancers, schirrous and oedematous tumours, malignant and fistulous ulcers, and catarrhs, are now brought into the highest reputation, from observations, made in a variety of cases in which this remedy was administered, by Dr. Stork, the baron Van Swieten, Dr. Kollman, and others of the most eminent physicians and surgeons at Vienna.

CONJUNCT, or CONJOINT. See the article CONJOINT.

CONJUNCTION, in astronomy, the meeting of two stars or planets, in the same degree of the zodiac.

This conjunction is either true, or apparent. The true conjunction is when a right line, drawn from the eye through the center of one of the bodies, would pass through that of the other: in this case the bodies are in the same degree of longitude and latitude: and here the conjunction is also said to be central, if the same line, continued from the two centers through the eye, do also pass through the center of the earth.

Apparent conjunction, is when the two bodies do not meet precisely in the same point; but are joined with some latitude. In this case a right line, drawn through the center of the two bodies, would not pass through the center of the earth, but through the eye of the spectator: this conjunction is also called partile.

The moon is in conjunction with the sun; when they meet in the same point of the ecliptic, which happens every month; and eclipses of the sun are always occasioned by the conjunction of the sun and moon in or near the nodes of the ecliptic. See the article SYZYG.

For the character of conjunction, see the article CHARACTER.

CONJUNCTION, in grammar, an undeclinable word, or particle, which serves to join words and sentences together, and thereby shews their relation or dependence one upon another. The conjunction, which is usually placed last in the eight parts of speech, is of great use

use to render the discourse smooth and fluent, and serves many good purposes in the argumentative or narrative stile; but should ever be omitted where a person speaks with emotion, as only serving to weaken and enervate it. Conjunctions are of several kinds.

Adversative CONJUNCTIONS, such as are restrictive, or expressive of contrarieties; as, *but, nevertheless, although.*

Causal CONJUNCTIONS, such as express that the reason of some thing is advanced; as, *for, because, seeing, inasmuch as.*

Conclusive CONJUNCTIONS, such as shew that a consequence is drawn; as, *of consequence, for which reason, but then, so that.*

Conditional CONJUNCTIONS, those that denote a condition; as, *on condition that, if, if not, in case of, provided that.*

Copulative CONJUNCTIONS, such as shew a comparison, or express a relation of union between two things; as, *and, only, as much as, in the same manner as, not only, inasmuch as, but also, neither more nor less.*

Continuative CONJUNCTIONS, such as denote a succession or continuation of the discourse; as, *whatever it be, even in effect.*

Disjunctive CONJUNCTIONS, such as import a relation of separation, or division; as, *neither, whether, or.*

Dubitative CONJUNCTIONS, such as express ~~some~~ doubt, or suspension of opinion; as, *if, that is to say, &c.*

CONJUNCTIVA, in anatomy, the same with adnata. See ADNATA.

CONJURATI FRATRES, in law. See the article FRATRES CONJURATI.

CONJURATION, magic words, characters, or ceremonies, whereby evil spirits, tempests, &c. are supposed to be raised, or driven away.

The romish priests pretend to expel devils, by preparing holy water in a particular manner, and sprinkling it over the possessed, with a number of conjurations and exorcisms. Some that pretend to distinguish conjuration from witchcraft, say, that the former is the effect of prayers and invocation of God's name, &c. to compel the devil to do what is desired: whereas the latter attains its end by an immediate application to the devil himself, who is supposed always so complaisant, from an agreement between them, as to do whatever is required.

CONN, or COND, in the sea-language, See the article COND.

CONNAUGHT, the most westerly province of Ireland.

CONNARUS, in botany, a genus of the monadelphia-decandria class of plants, the flower of which consists of five spear-shaped erect equal petals; the fruit is a capsule formed of two valves, and containing one cell, wherein is lodged a single seed.

CONNECTICUT, a british colony of north America, bounded by the Massachusetts colony on the north-east; by the sea, on the south; and by New York, on the west; being about 100 miles in length, and 80 in breadth.

This colony constitutes a distinct government, of a different form from that of New England.

CONNECTION, or CONNEXION, the relation whereby one thing adheres to, or depends upon, another. Such is the relation between Euclid's propositions, that the latter cannot subsist but by its connection with the former.

CONNECTION, or CONTINUITY, in the drama, consists in the joining of the several scenes together. See DRAMA.

The connection is said to be observed, when the scenes of an act succeed one another immediately, and are so joined, as that the stage is never left empty.

CONNIVENT VALVES, in anatomy, those wrinkles, cellules, and vascules, which are found in the inside of the two great intestines, the ileum and jejunum.

The inner tunic of the guts, being longer than the middle or the outward tunic, does frequently wrinkle, or bag out, in many places, by which means the passage for the contents becomes straitened, and the matter through the guts then descends more slowly, so that the lacteals have the more time to imbibe the chyle.

CONNOISSEUR, a french word much used of late in english, to signify a person well versed in any thing: whence it is used for a critic, or a person who is a thorough judge of any subject.

CONNOR, a city of Ireland, in the county of Antrim, and province of Ulster, situated about six miles north of Antrim, in 60° 30' west longitude, and 54° 50' north latitude.

CONOCARPUS, the BUTTON-TREE, in botany, a genus of the pentandria-monogynia class of plants, having no corolla, nor any pericarpium distinct from the seed, which is naked and single, having on each side a prominent, membranaceous margin.

CONOID,

CONOID, in geometry, a solid body, generated by the revolution of a conic section about its axis. See the article CONIC SECTIONS.

Elliptical CONOID, is a solid formed by the revolution of an ellipsis about one of its diameters, and more generally called a spheroid. See the article SPHEROID.

Parabolical CONOID, is generated by the revolution of a parabola about its axis. See the article PARABOLA.

Hyperbolical CONOID, is generated by the revolution of an hyperbola about its axis. See the article HYPERBOLA.

CONOIDES, in anatomy, a gland found in the third ventricle of the brain called pinealis, from its resemblance to a pineapple. Descartes fixed the seat of the rational soul in this gland. See the article PINEAL GLAND.

CONQUERNA, a port-town of Britany, in France, forty miles south-east of Brest; west long. $3^{\circ} 50'$, north lat. $47^{\circ} 55'$.

CONQUET, a port-town of Britany, in France, about eight miles west of Brest; west long. $4^{\circ} 46'$, north lat. $48^{\circ} 26'$.

CONSANGUINITY, the relation subsisting between persons of the same blood, or who are sprung from the same root. See the article KINDRED.

Consanguinity terminates in the sixth and seventh degree, excepting in the succession of the crown, in which case it is continued to infinity.

Marriage is prohibited by the church to the fourth degree of consanguinity inclusive; but by the law of nature, consanguinity is no obstacle to marriage, except it be in the direct line.

The civilians call fratres consanguinei, those born of the same father, in opposition to fratres uterini, who are only born of the same mother. It is the common opinion that the former was not allowed to complain of an inofficious testament, that is, of being disinherited without cause; excepting from the turpitude of the person, appointed heir in their place.

CONSCIENCE, in ethics, a secret testimony of the soul, whereby it gives its approbation to things that are naturally good, and condemns those that are evil. When it judges of an action to be performed, it is called in the schools an antecedent conscience; and when it passes sentence on an action which is performed, it is called a subsequent conscience. When the mind is ignorant or uncertain about the moment of an action, of its tendency to good; or when there are

several circumstances in the case, some of which being doubtful, render the mind dubious concerning the morality of an action, this is called a doubtful or scrupulous conscience; and if it mistakes concerning these, it is called an erroneous conscience. If the error or ignorance is involuntary or invincible, the action proceeding from that error, or from that ignorance, is reckoned innocent. But if they are the effect of negligence, or of affectation, the conduct flowing from such error is criminal. Not to follow one's conscience, though erroneous and ill-informed, Mr. Hutcheson likewise reckons criminal, as it is the guide of life, and to counteract it shews an incorrigible spirit; yet to follow an erroneous conscience is likewise criminal, if the error which misled the conscience was the effect of inattention, or of any criminal passion.

Some divines maintain that conscience is infallible, and hold it to be that immutable law by which God will judge men. They deny that the understanding can be the source of errors, and lay them all at the door of the will.

CONSCRIBED, a term used by some geometers for circumscribed. See the article CIRCUMSCRIBED.

CONSCRIPT, *conscriptus*, in roman antiquity, an appellation given to the senators of Rome, who were called conscript-fathers, on account of their names being entered all in one register.

CONSECRATION, the act of devoting any thing to the service and worship of God.

The mosaical law ordained, that all the first-born, both of man and beast, should be sanctified or consecrated to God. We find also, that Joshua consecrated the Gibeonites, as Solomon and David did the Nethinims, to the service of the temple; and that the Hebrews sometimes consecrated their fields and cattle to the Lord, after which they were no longer in their power.

The New Testament furnishes us with instances of consecration. Christians in general are consecrated to the Lord, and bishops and other ministers of the gospel are in a peculiar manner set apart for his service.

Among the antient christians, the consecration of churches was performed with a great deal of pious solemnity. In what manner it was done for the three first ages is uncertain, the authentic accounts reach-

reaching no higher than the fourth, when, in the peaceable reign of Constantine, churches were every where built and dedicated with great solemnity. Some think the consecration consisted in setting up the sign of the cross, or in placing a communion-table in the church; and others, that no more was done than preaching a panegyric sermon in commemoration of the founder, and that then they proceeded to prayers, one of which was composed on purpose for the church to be consecrated. The romanists have a great deal of pious foppery in the ceremonies of consecration, which they bestow on almost every thing, as bells, candles, books, water, oil, ashes, palms, swords, banners, pictures, crosses, agnus dei's, roses, children's clouts, &c. In England, churches have been always consecrated with particular ceremonies, the form of which was left to the discretion of the bishop. That observed by bishop Laud, in consecrating St. Catharine Creed church, in London, gave great offence.

CONSECRATION is particularly used for the benediction of the elements in the eucharist. There is a great controversy between the latin and greek churches, touching the words of consecration: the romanists, following St. Thomas and the schoolmen, believe that the consecration of the bread and wine consists in these words, *This is my body, this is my blood.* The greeks, on the contrary, attribute the change of the elements to a certain prayer which they call the invocation of the Holy Ghost, rehearsed after these words, *this is my body, &c.*

CONSECRATION, among medalists, is the ceremony of the apotheosis of an emperor, the process of which see under the article **APOTHEOSIS**.

The consecration on medals is represented thus: on one side is the emperor's head, crowned with laurel, and sometimes veiled, and the inscription gives him the title **DIVVS**; on the reverse is a temple or altar, or an eagle taking flight toward heaven; and sometimes the emperor is seen in the air, borne up by the eagle; the inscription always **CONSECRATIO**.

CONSECTARY, a deduction, or consequence, drawn from a preceding proposition. Some rather choose to call it a consequence, and others a corollary. See the article **COROLLARY**.

CONSECUTIVELY, in the school-philosophy, is sometimes used in contradistinc-

tion to antecedently; and sometimes to effectively, and causally.

Thus, say the schoolmen, the corruption of one thing is the generation of another, not effectively, but consecutively; that is, since matter cannot, in the nature of things, be without form, the generation of one thing must necessarily follow the corruption of another.

CONSENT, in a general sense, denotes much the same with assent. See the article **ASSENT**.

CONSENT of parts, in the animal oeconomy, an agreement or sympathy, whereby when one part is immediately affected, another, at a distance, becomes affected in the same manner.

It can hardly be imagined what a consent there is between the brain and its membranes, between the stomach and the adjoining intestines; these being very nervous and endued with an exquisite sense: whence many students are troubled with a bad digestion, costiveness, and the hypochondriac passion.

The harmony and sympathy of the nervous parts is of great use in physic, for without an accurate knowledge of this, many symptoms of diseases can scarcely be explained.

It is to be observed, that the nervous membranaceous parts are, first, the membranes of the brain, and spiral marrow; then the nervous membranes which invest the organs of the senses: to these may be added those which cover the bones, head, teeth, joints, and muscles. Likewise the oesophagus, stomach, and the whole volume of intestines, which is entirely nervous and membranaceous. The same consent obtains also in the whole system of the bilious and urinary ducts; the bladder, glands, and skin. In all these parts there is a wonderful connection, consent, sympathy, and communication of motions, as well as hurts, when they are affected by any violent cause: all which is owing to the nerves; for when they are molested, there arises a sense of pain, and a stricture of the adjacent parts, especially of the vessels.

CONSEQUENCE, in logic, the conclusion, or what results from reason or argument. See **CONCLUSION**.

The consequence is that other proposition in which the extremes or premisses of a syllogism are joined or separated; and is gained from what was asserted in the premisses.

This word, in a more restrained sense, is used

used for the relation or connection between two propositions, whereof one is inferred from the other.

CONSEQUENT, something deduced or gathered from a former argumentation. But, in a more precise sense, it is used for the proposition which contains the conclusion, considered in itself, without any regard to the antecedent: in which sense the consequent may be true, though the consequence be false. See the preceding article.

CONSEQUENT of a ratio, in mathematics, the latter of the two terms of a ratio, or that to which the antecedent is compared; thus in $m:n$, or m to n , n is the consequent, and m the antecedent. See the articles **RATIO** and **PROPORTION**.

CONSEQUENTE, **CONSEQUENZA**, or **CONSEQUENZA**, in music, a part of a fugue or canon is said to be in consequente, when it follows the first part, called the guide, imitating its motions, notes and figures.

CONSERVATOR, an officer ordained for the security and preservation of the privileges of some cities and communities, having a commission to judge of, and determine the differences among them.

In most catholic universities there are two conservators, one whereof decides the differences between the regents, students, &c. and the other takes cognizance of spiritual matters between ecclesiastics: the former is called conservator of royal privileges, or those granted by kings; the latter is called the conservator of apostolical privileges, or those granted by the pope.

CONSERVATOR of the peace, in our antient customs, a person who had a special charge to keep the king's peace.

The chamberlain of Chester is still a conservator in that county; and petty conservables are, by the common law, conservators, &c. of the king's peace.

CONSERVATOR of the truce and safe conduct, an officer formerly appointed by the king's letters patent, whose business it was to make enquiry of all offences committed against the king's truce and safe conducts upon the main seas out of the liberties of the cinqueports.

CONSERVATORY, a term sometimes used for a green-house, or ice-house. See the articles **GREEN-HOUSE** and **ICE-HOUSE**.

CONSERVE, in pharmacy, a form of medicine, contrived to preserve the flowers,

herbs, roots, pills, or fruits, of several simples, as near as possible to what they are when fresh gathered.

All the things which come under this division are to be regarded pretty much as the syrups, more for the sake of mixing and rendering palatable other things of greater efficacy, than to answer any intention of cure, in regard there is so much sugar made use of in a conserve, that a dose of the simple, to answer any intention of moment, is rendered inconvenient to take.

Conserve are made by beating up the thing to be preserved, with sugar, viz. a triple quantity thereof to those that are most moist, and a double quantity to those that are least so.

CONSIDERATION, in law, the material cause or ground of a contract, without which the party contracting would not be bound.

This consideration is either expressed, as where a person agrees to pay 5 l. for a house; or it is implied, when the law itself enforces a consideration, as in the case of a person's coming to an inn, and taking meat, drink, and lodging for himself and his horse; the law here presumes he intends to pay for them, though there is no express contract between him and the innkeeper: wherefore, if he do not discharge the house, the host may stop his horse.

CONSIGNMENT, in law, the depositing any sum of money, bills, papers, or commodities in good hands; either by appointment of a court of justice, in order to be delivered to the persons to whom they are adjudged; or voluntarily, in order to their being remitted to the persons they belong to, or sent to the places they are designed for.

CONSIGNMENT of goods, in commerce, is the delivering or making them over to another: thus, goods are said to be consigned to a factor, when they are sent to him, to be sold, &c. or when a factor sends back goods to his principal, they are said to be consigned to him.

CONSISTENCE, in physics, that state of a body wherein its component particles are so connected or entangled among themselves, as not to separate or recede from each other. It differs from continuity in this, that it implies a regard to motion or rest, which continuity does not, it being sufficient to denominate a thing continuous, that its parts are contiguous to each other. Consistence is generally used

with regard to the thickness and thinness of medicines; and we may observe, that not only the gratefulness, but also the operation of medicines depend, in some measure, upon their consistence; for medicines of a thick consistence are taken into the stomach, and penetrate into the body, with greater difficulty than such as are thin and liquid: for this reason thick medicines are generally nauseous; and for this reason honey is diluted with water, that it may more easily operate as a detergent upon the obstructed pores of the skin. On the contrary, a thick consistence is, on some occasions, more to be desired; in ulcers, for instance, of the *aspera arteria* and *oesophagus*, where medicines must be given that can adhere long to the part affected. And hence it happens, that in medicines to be inspissated, some things are added which neither add to nor impair their operation, but only have a respect to their consistence; such as wax, for instance, in ointments and plasters.

CONSISTENCE, when used relative to age or a disease, imports the state or acme thereof: thus we distinguish three states or stages of a tree, its growth, consistence or age, beyond which it does not grow, and return. The consistence of oaks is from fifty to one hundred and sixty years. Some, however, hold that their consistence only commences from one hundred years, asserting that they grow till that time, and that they continue in that state of perfection to two hundred years of age.

CONSISTENT BODIES, a term frequently used by Mr. Boyle, to signify such bodies, whose parts are firmly united together, so that they do not so easily slide over one another's surfaces as the parts of a fluid bodies do.

That author has an essay of the *Atmosphere of Consistent Bodies*, wherein he shews that all, even solid, hard, fixed bodies emit effluvia to a certain space all around them. See *EFFLUVIUM*.

CONSISTENTES, in church-history, an appellation given to such penitents as were permitted to assist at prayers, but not to partake of the sacrament.

CONSISTORIAL, something belonging to a consistory. See the next article.

CONSISTORY, at Rome, is an ecclesiastical assembly held in the presence of the pope, for the reception of princes, or their ambassadors, for the canonization of

saints, for the promotion of cardinals, and other important affairs.

When a public consistory is to be held, the pope's throne is erected in the great hall of the apostolic palace: the pope is seated on cloth of gold, under a canopy of the same, and the foot of the throne is covered with red cloth. The cardinal bishops and priests sit on the right, below the throne, and the deacons on the left, but so as to have their faces towards the pope. The archbishops, bishops, protonotaries, and other prelates, sit on the steps of the throne: on the lowest step the subdeacons, auditors, clerks of the chamber, and acolyths with woollen cowls: and the ecclesiastical officers of the pope's court on the ground. The nephews of the reigning pope, and other roman princes are ranged on each side of the throne: and the entrance of the passage leading to the throne is occupied by the pope's guard.

Besides the public consistory there is also a private one, held in a retired chamber, called the chamber of papegay, into which none are admitted but cardinals: here the pope appears in a white silk cassock, and a red velvet cap laced with silver; and here are first proposed and passed all bulls for bishopricks, abbeys, &c. which from thence are called consistorial benefices.

The bishop's courts in England, held before their chancellors or commissaries, are called consistory courts.

CONSISTORIES, among the Jews, courts of judicature, consisting of twenty-three persons, who were appointed to sit in judgment upon the lives and fortunes of the people, and decided all causes, a few only excepted. These consistories always sat in the gates of the cities. Their session began after morning-prayers, and continued to the end of the sixth hour.

CONSOLATION, a figure in rhetoric, wherein the orator endeavours to moderate the grief of another. A principal regard is always to be had to the circumstances and relations of the parties: thus, a superior may interpose his authority, and even chide: a wise man may dispute; sentences will become him: an inferior is to shew respect and affection, and own that he had this from some wise or learned person: and an equal is to appeal to their common friendship.

CONSOLE, in architecture, an ornament cut upon the key of an arch, which has a pro-

a projecture, and, on occasion, serves to support little corniches, figures, busts, and vases. They are also called mutules and modillions, according to their form: some of them are striated, others in form of cartouches, others have drops in form of triglyphs. Those made at the end of a plank of wood, cut triangularwise, are called ancones. See the articles MODILLIONS and ANCONES.

Mr. Le Clerc is of opinion that a console should always have something massive to sustain, and serve it as a rest.

CONSOLIDATION, in medicine, the action of uniting broken bones, or the lips of wounds, by means of conglutinating medicines.

CONSOLIDATION, in the civil law, signifies the uniting the possession or profit of land with the property, and *vice versa*. Thus, if a man have by legacy *usufructum fundi*, and afterwards buy the property, or fee simple, of the heir, this is called a consolidation.

CONSOLIDATION, in our law, is the uniting two benefices into one by assent of the ordinary, patron, and incumbent.

CONSONANCE, in music, is ordinarily used in the same sense with concord, *viz.* for the union or agreement of two sounds produced at the same time, the one grave and the other acute; which mingling in the air in a certain proportion, occasion an accord agreeable to the ear. See the article CONCORD.

Most authors confound consonance and concord together, tho' some of the more accurate distinguish them, making consonance a mere sounding of two notes together, or in the same time, in contradistinction to the motion of those sounds in succession, or one after the other. In effect the two notions coincide; for two notes thus played in consonance, constitute concord; and two notes that please the ear in consonance, will please it in succession. See SUCCESSION.

Notes in consonance constitute harmony, as notes in succession constitute melody. See the articles HARMONY, MELODY, and also TUNE.

In the popular sense, consonances are either simple or compound. The most perfect is unison; though many authors, both among the antients and moderns, discard it from the number of consonances, as conceiving consonances an agreeable mixture of grave and acute sounds, and not a repetition of the same sound. The first consonance is the octave, then

the fifths, the fourths, the thirds, and sixths: the rest are multiples, or repetitions of these.

CONSONANCE, in grammar, signifies a like cadence of words and periods, a fault to be avoided in english, though the antients make a figure of them, which they call *καταρτήσιμος*.

CONSONANT, a letter that cannot be sounded without some single or double vowel before or after it.

Consonants are first divided into single and double; the double are *x* and *z*, the rest are all single: and these are again divided into mutes and liquids; eleven mutes, *b, c, d, f, v, g, j, k, p, q, t*; and four liquids, *l, m, n, r*. But the most natural division of consonants is that of the hebrew grammarians, who have been imitated by the grammarians of other oriental languages. These divide the consonants into five classes, with regard to the five principal organs of the voice, which all contribute, it is true, but one more notably than the rest, to certain modifications, which make five general kinds of consonants. Each class comprehends several consonants, which result from the different degrees of the same modification, or from the different motions of the same organs: these organs are the throat, palate, tongue, teeth, lips, whence the five classes of consonants are denominated guttural, palatal, lingual, dental, and labial.

The abbe Dangeau thinks the nature of the division of the hebrew grammarians very reasonable, but he does not acquiesce in the distribution they have made of them. In order to find a natural and just division of the consonants, he observes, no regard must be had to the characters that represent them, nor any thing to be considered but their sound, or the modification they give the sound. On this principle the same author finds in the french five labial consonants *b, p, v, f, m*; five palatal ones, *d, f, g, k, n*; four hislers, *s, z, j, ch*; two liquids, *l* and *r*; two that mix with each other, *ll, gn*; and the *b* aspirate. He adds, 1. That *m* and *n* are properly two nasal consonants, the *m* sounding like a *b* passed through the nose, and the *n* like a *d* pronounced through the nose. 2. That among the consonants some are weak, others strong; their difference consisting in this, that the former are preceded by a small emission of the voice, that softens them, which the latter have not: the weak are *b, c, d, g, z, j*;

z, j; the strong are *p, f, k, z, s, ch*: hence we may conclude that the excess of consonants in one language above another only consists in this, that there are more modifications of sound established in the one than in the other. For all men having the same organs, may form the same modifications; so that it is entirely owing to custom, nothing to nature, that the English have not the *ð* of the Greeks, the *y* and *ן* of the Hebrews, the *ch* of the Germans, the *gn* of the French, the *gl* of the Italians, and the *ll* of the Welch. Also that the Chinese have no *r*, the Iroquois no labial consonants, the Hurons abundance of aspirates, and the Arabs and Georgians abundance of double consonants. Lastly, to find all the consonants that may be formed in any language, there needs nothing but to observe all the modifications that the sounds of speech will admit of, by which we shall have all the consonants practicable.

CONSORT, or **CONCERT**, in music. See the article **CONCERT**.

Queen-CONSORT is said in contradistinction to a sovereign prince, or queen invested with supreme authority. See the article **QUEEN**.

CONSPIRACY, in law, signifies an agreement between two or more, falsely to indict, or procure to be indicted, an innocent person of felony.

The punishment of a conspiracy upon an indictment of felony at the king's suit, according to our old law, was, that the parties attainted shall lose their frank law, whereby they become disabled to be impannelled on juries, or to give evidence in court; that their lands, goods, and chattels shall be seized into the king's hands, and their bodies committed to prison. At this day, fine and imprisonment is usually inflicted, where one is found guilty on an indictment for conspiracy.

A conspiracy to maintain suits and quarrels, of victuallers to sell their victuals at a certain price, and of labourers and artificers to raise their wages, is also punishable by statute.

CONSPIRATORS are, by statute, defined to be such as bind themselves by oath, covenant, or other alliance, to assist one another, falsely and maliciously to indict persons, or falsely to maintain pleas. Likewise those that retain men in the countiees with liveries or fees, in order to support their malicious enterprises, which extends as well to the takers as the givers, and to stewards and bailiffs of lords, who,

by their office or power, take upon them to maintain quarrels.

Conspirators in treason are those that plot against the king and government.

CONSPIRING POWERS, in mechanics, those acting in directions not opposite. See the article **POWER**.

CONSTABLE. Lord high constable, an ancient officer of the crowns both of England and France, whose authority was so very extensive, that the office has been laid aside in both kingdoms, except upon particular occasions, such as the king's coronation. The constable of France had his person privileged, and, during the king's minority, was named next to the princes of the blood. The army obeyed him next the king: he managed all that belonged to war, either for punishment of delinquents, distribution of booty, surrender of places, &c. The jurisdiction and functions of this office are now in the marshals of France.

The function of the constable of England consisted in the care of the common peace of the land, in deeds of arms and matters of war. By a law of Richard II. the constable of England has the determination of things concerning wars and blazonry of arms, which cannot be discussed by the common law. The first constable was created by the Conqueror: the office continued hereditary till the thirteenth of Henry VIII. when it was laid aside, as being so powerful as to become troublesome to the king. We have also constables denominated from particular places, as constable of the Tower, of Dover-castle, of Windsor-castle, of the castle of Caernarvon, and many other of the castles of Wales, whose office is the same with that of the castellani, or governors of castles.

From the lord high constable are derived those inferior ones, since called the constables of hundreds or franchises, who were first ordained in the thirteenth of Edward I. by the statute of Winchester, which, for the conversation of peace and view of armour, appointed that two constables should be chosen in every hundred. These are what we now call high-constables, on account that the increase of people and offences has made it necessary to appoint others under these, in every town, called petty-constables, who are of the like nature, though of inferior authority to the other. The high-constable over the whole hundred is usually chosen and sworn into his office by the justices of the

the peace, in their sessions: and as to petty-constables in towns, villages, &c. the right of choosing them belongs to the court-leet, though they may be elected by the parishioners. They are appointed yearly, and ought to be men of honesty, knowledge and ability; and if they refuse to serve, or do not perform their duty, they may be bound over to the sessions, and there indicted and fined. Any constable, without a warrant from a justice, may take into his custody any persons that he sees committing felony, or breaking the peace; but if it be out of his sight, as where a person is seized by another, he cannot do it without a warrant.

CONSTANCE, a city of Swabia, in Germany, situated on the western shore of a lake, to which it gives name, in $9^{\circ} 12'$ east long. and $47^{\circ} 37'$ north latitude.

It is the see of a bishop, who is a prince of the german empire.

CONSTANT, in general, an appellation given to things which remain in the same state, without changing their nature or circumstances: thus we say, constant quantities, constant winds, &c. See the article **QUANTITY**, **WIND**, &c.

CONSTANTINA, the capital of a province of the same name, in the kingdom of Algiers, in Africa: east longitude 7° , and north latitude $35^{\circ} 30'$.

CONSTANTINOPLE, the metropolis of the turkish empire, called by the Turks themselves Stamboul, and by many Europeans the Port, being one of the best harbours in Europe: east long. $29^{\circ} 15'$, and north lat. $41^{\circ} 30'$.

It is built on the western shore of the Bosphorus, in the form of a triangle; the seraglio, or palace, occupying that angle which runs out between the Propontis and harbour; and underneath the palace are the gardens, which extend to the water-side.

CONSTAT, in law, a certificate, that the clerk of the pipe and auditors of the exchequer grant at the request of any person who intends to plead or move in that court, for the discharge of any thing. A constat is superior to an ordinary certificate, because it contains nothing but what is evident on record.

CONSTELLATION, in astronomy, a system of several stars that are seen in the heavens, near to one another. Astronomers not only mark out the stars, but, that they may better bring them into order, they distinguish them by their situation and position in respect to each other; and therefore they distribute them into

asterisms, or constellations, allowing several stars to make up one constellation: and for the better distinguishing and observing them, they reduce the constellations to the forms of animals, as men, bulls, bears, &c. or to the images of some things known, as of a crown, a harp, a balance, &c. or give them the names of those, whose memories, in consideration of some notable exploit, they had a mind to transmit to future ages. The venerable Bede, indeed, out of a vain zeal, instead of the names and figures of the twelve constellations, or signs of the zodiac, substituted those of the twelve apostles; Julius Schillerius, in 1627, completed the reformation, and gave scripture-names to all the constellations in the heavens. But as these innovations could serve no purpose, but that of introducing quarrels into astronomy, the old constellations are still retained, both because better could not be substituted, and likewise to keep up the greater correspondence and uniformity between the old astronomy, and the new. The division of the stars by images and figures is of great antiquity, and seems to be as old as astronomy itself; for in the most antient book of Job, orion, arcturus, and the pleiades are mentioned; and we meet with the names of many of the constellations in the writings of the first poets Homer and Hesiod.

The antients, in their division of the firmament, took in only so much as came under their notice, distributing it into forty-eight constellations; but the modern astronomers comprehend the whole starry firmament, dividing it into three regions: 1. The zodiac, or that portion of the heavens in which the planets would appear to move, to an eye placed in the sun: the breadth of this space depends on the inclination of the orbits, in which the planets move, to one another; and includes twelve constellations, commonly called the signs of the zodiac, *viz.* aries, taurus, gemini, cancer, leo, virgo, libra, scorpio, sagittarius, capricornus, aquarius, and pisces. 2. All that region of the heavens that lies on the north side of the zodiac, which contains twenty-one constellations, namely the ursa minor and major, draco, cepheus, bootes, corona septentrionalis, hercules, lyra, cygnus, cassiopeia, perseus, andromeda, triangulum, auriga, pegatus, equuleus, delphinus, sagitta, aquila, serpentarius, and serpens; to which were added afterwards two others, *viz.* that of antinous, which was made of the stars not included in

any image, near the eagle; and berenice's hair, consisting of stars which are near the lion's tail. 3. That region on the southern side of the zodiac, which contains fifteen constellations, known to the antients, *viz.* cetus, the eridanus, lepus, orion, canis major, canis minor, argo, hydra, crater, corvus, centaurus, lupus, ara, corona meridionalis, and piscis australis: to these are lately added twelve more constellations, which are not to be seen by us, who inhabit the northern regions, because of the convexity of the earth, but in the southern parts they are very conspicuous; these are the phoenix, grus, pavo, indus, avis paradisi, triangulum australe, musca, chameleon, piscis volans, toucan, hydrus, xiphias. The galaxy, or milky way, is also to be reckoned among the constellations. See each constellation, and the number of stars it contains, under its proper head, **ARIES**, **TAURUS**, &c.

Without the compass of these constellations there are several stars which cannot be reduced to any of the forms mentioned, and these by the antients are called *informes* or *sporades*, out of which some great astronomers have made new constellations, as Charles's heart, and Sobieski's shield. See the articles **INFORMIS** and **SPORADES**.

CONSTIPATION, in medicine, a hardness of the belly, with great costiveness. Riding post, eating medlars, quinces, &c. and several preparations of milk, constipate the belly: and most persons of a hot dry constitution are afflicted with a constipation; the proper remedy for which is a clyster and lenient cathartics; but when these fail, other medicines of a more powerful nature must be administered.

CONSTITUENT PART, in physiology, an essential part in the composition of any thing, differing little from what is otherwise called element or principle. See the articles **ELEMENT** and **PRINCIPLE**.

CONSTITUTION, in matters of policy, signifies the form of government established in any country or kingdom.

CONSTITUTION also denotes an ordinance, decision, regulation, or law, made by authority of any superior, ecclesiastical or civil. The constitutions of the roman emperors make a part of the civil law, and the constitutions of the church make a part of the canon law. See the articles **CIVIL LAW** and **CANON LAW**.

CONSTITUTION, by way of eminence, is an appellation given to that bull of pope

Clement XI. which begins with the word *Unigenitus*. See the article **BULL**.

Apostolical CONSTITUTIONS, a collection of regulations attributed to the apostles, and supposed to have been collected by St. Clement, whose name they likewise bear. It is the general opinion, however, that they are spurious, and that St. Clement had no hand in them. They appeared first in the IVth age, but have been much changed and corrupted since that time. They are divided into eight books, consisting of a great number of rules and precepts, relating to the duties of christians, and particularly the ceremonies and discipline of the church. Mr. Whiston, in opposition to the general opinion, asserts them to be a part of the sacred writings, dictated by the apostles in their meetings, and wrote down from their own mouth by St. Clement, and intended as a supplement to the New Testament, or rather as a system of christian faith and polity. The reason why the constitutions are suspected by the orthodox, and, perhaps, the reason also why their genuineness is defended by Mr. Whiston, is, that they seem to favour arianism.

CONSTITUTION, in a physical sense, is that particular disposition of the human body, which results from the properties and mutual actions of the solids and fluids, and which renders them capable of exercising the functions proper and conformable to nature. An equal constitution is that wherein the four humours, blood, phlegm, bile, and melancholy, are mixed in a due proportion; and according as one or other of these predominates, the constitution is denominated sanguine, phlegmatic, bilious, or melancholy and atrabilious. See **TEMPERAMENT**.

CONSTRICION, the binding or drawing the parts of a thing close together.

CONSTRUCTOR, an appellation given to several muscles on account of their constringing or closing some of the orifices of the body. Thus,

CONSTRUCTOR LABIORUM, called also orbicularis, because its fibres are of an arched figure, is a muscle which constitutes the very substance of the lips, and draws them up as in kissing; whence it is also called *basinator* and *ocululatorius*.

CONSTRUCTOR NASI, a muscle arising above the dentes incisores of the upper jaw, and terminating in the alæ of the nose. It is but single, though Santorini will have it that it is double, and is not orbicular in human subjects as in many of

of the quadrupeds. Properly speaking, indeed, there is in the human frame no such muscle as the constrictor orbicularis of beasts, but this serves some degree in its office. The use is to draw the alæ downwards, and at the same time to draw the upper lip downwards, in which action it is very much assisted by the constrictor of the lips.

CONSTRUCTION, in geometry, is the drawing such lines, such a figure, &c. as are previously necessary for the making any demonstration appear more plain and undeniable.

CONSTRUCTION of equations, in algebra, the method of drawing a geometrical figure whose properties shall express the given equation, in order to demonstrate the truth of it geometrically.

Construction of simple equations is performed by resolving the fractions to which the unknown quantity is equal, into proportional parts. Thus if $\frac{da}{b} = x$, then

it will be as $b : d :: a : x$. Whence x will be determined by the method of finding a fourth proportional. Suppose the equation to be $\frac{ab+mn}{r-s} = x$, first find

a mean proportional between a and b , which suppose to be p , also another mean proportional between m and n , which suppose to be q , then the equation will stand thus $\frac{pp+qq}{r-s} = x$. Which may be constructed in the following manner. Let

the base AB (plate L. fig. 1. n°. 1.) of the right angled triangles APB be made equal to q , and the perpendicular AP equal to p ; then will PB^2 be equal $pp+qq$, which according to the equation is to be divided by $r-s$. Therefore it will be as $r-s : PB (= \sqrt{pp+qq}) :: PB$ to a third proportional, which will give x required.

CONSTRUCTION of quadratic equations. In order to render the construction of quadratic equations more easy to be understood, it is necessary to shew the nature of curves of the second order, which are made use of in constructing equations of this kind. See the article **CURVE**.

The general equation expressing the nature of the lines of the second order, having all its terms and coefficients, will be in this form.

$$\left. \begin{array}{l} y^2 + axy + cx^2 \\ + by + dx \\ + e \end{array} \right\} = 0$$

Where a, b, c, d, e represent any given quantities with their proper signs prefixed to them. If a quadratic equation is given, as $y^2 + py + q = 0$, and by comparing it with the preceding, you take the quantities a, b, c, d, e , and x such, that $ax + b = p$, and $cx^2 + dx + e = q$, then will the values of y in the first equation be equal to the values of it in the second; and if the locus be described according to the first equation, the two values of the ordinate, when $ax + b = p$ and $cx^2 + dx + e = q$, will be the two roots of the equation $y^2 + py + q = 0$. See **LOCUS**. And as four of the given quantities a, b, c, d, e may be taken at pleasure, and the fifth with the abscisse determined so, that $ax + b$ may be still equal to p , and $cx^2 + dx + e = q$; hence there are innumerable ways of constructing the same equation. But these loci are to be preferred which are described most easily; and therefore the circle of all conic sections is to be preferred for the resolution of quadratic equations.

Let AB (*ibid.* n°. 2.) be perpendicular to AE , and upon AB describe the semicircle $BMAA$. If AP be supposed equal to x , $AB = a$, and $PM = y$, then making $MRMR$ perpendiculars to the diameter AB , since $AR \times RB = RM^2$, and $AR = y$, $RB = a - y$, $RM = x$, it follows that $a - y \times y = x^2$, and $y^2 - ay + x^2 = 0$. And if an equation $y^2 - py + q = 0$ be proposed to be resolved, its roots will be the ordinates to the circle, PM and PM' , to its tangent AE , if $a = p$, and $x^2 = q$: because then the equation of the circle $y^2 - ay + x^2 = 0$ will be changed into the proposed equation $y^2 - py + q = 0$.

We have therefore this construction for finding the roots of the quadratic equation $y^2 - py + q = 0$, take $AB = p$, and on AB describe a semicircle: then raise AE perpendicular to AB , and on it take $AP = \sqrt{q}$, that is, a mean proportional between 1 and q (by 13 el. 6) then draw PM parallel to AB , meeting the semicircle in M and the lines PM , PM' shall be the roots of the proposed equations.

It appears from the construction that if $q = \frac{p^2}{4}$ or $\sqrt{q} = \frac{1}{2}p$, then $AP = \frac{1}{2}AB$,

and the ordinate PN touches the curve in N , the two roots PM , PM' in that case becoming equal to one another and to PN . If AP be taken greater than $\frac{1}{2}AB$, that is, when the \sqrt{q} is greater than

than $\frac{1}{2}p$, or q greater than $\frac{1}{2}p$, the ordinates do not meet the circle, and the roots of the equation become imaginary.

The roots of the same equation may be otherwise thus determined. Take $AB = \sqrt{q}$, (*ibid.* n^o. 3.) and raise BD perpendicular to AB ; from A as a center with a radius equal to $\frac{1}{2}p$ describe a circle meeting BD in C , then the two roots of the equation $y^2 - py + q = 0$ shall be $AC + CB$, and $AC - CB$. For these roots are $\frac{1}{2}p + \sqrt{\frac{1}{4}p^2 - q}$, and $\frac{1}{2}p - \sqrt{\frac{1}{4}p^2 - q}$; and $AC = \frac{1}{2}p$, $CB = \sqrt{AC^2 - CB^2} = \sqrt{\frac{1}{4}p^2 - q}$, and consequently these roots are $AC \pm BC$. The roots of the equation $y^2 + py + q = 0$ are $-AC \pm CB$. The roots of the equation $y^2 - py - q = 0$ are determined by this construction. Take $AB = \frac{1}{2}p$, $BC = \sqrt{q}$, (*ibid.* n^o. 4.) draw AC , and the two roots shall be $AB \pm AC$. If the second term is positive, then the roots shall be $-AB \pm AC$. And all quadratic equations being reducible to these four forms,

$$y^2 - py + q = 0$$

$$y^2 + py - q = 0$$

$$y^2 - py - q = 0$$

$$y^2 + py + q = 0$$

it follows that they may all be constructed by this and the foregoing method.

CONSTRUCTION of cubic and biquadratic equations. The roots of any equation may be determined by the intersections of a straight line with a curve of the same dimensions as the equation, or by the intersections of any two curves, whose indices multiplied by each other, give a product equal to the index of the proposed equation. Thus the roots of a biquadratic equation may be determined by the intersections of two conic sections; for the equation by which the ordinates from the four points in which these conic sections may cut one another can be determined, will arise to four dimensions; and the conic sections may be assumed in such a manner, as to make this equation coincide with any proposed biquadratic: so that the ordinates from these four intersections, will be equal to the roots of the proposed biquadratic. If one of the intersections of the conic section falls upon the axis, then one of the ordinates vanishes, and the equation by which these ordinates are determined will then be of three dimensions only, or a cubic, to which any proposed cubic equation may be accommodated. So that the three re-

maining ordinates will be the three roots of that proposed cubic.

Those conic sections ought to be preferred for this purpose that are most easily described. They must not, however, be both circles; for their intersections are only two, and can serve only for the resolution of quadratic equations. Yet the circle ought to be one, as being most easily described, and the parabola is commonly assumed for the other. Their intersections are determined in the following manner. Let APE be the common apollonian parabola, (*ibid.* n^o. 5.) Take on its axis the line $AB =$ half of its parameter. Let C be any point in the plane of the parabola, and from it, as a center, describe with any radius CP a circle meeting the parabola in P . Let PM , CD be perpendiculars on the axis in M and D , and let CN parallel to the axis meet PM in N . Then will always $CP^2 = CN^2 + NP^2$ (by 47 of Euclid, book I.). Put $CP = a$, the parameter of the parabola $= b$, $AD = c$, $DC = d$, $AM = x$, $PM = y$. Then $CN^2 =$

$$\overbrace{x + d}^2, NP^2 = \overbrace{y + d}^2; \text{ and } \overbrace{x + d}^2 + \overbrace{y + d}^2 = a^2. \text{ That is } x^2 \pm 2cx + c^2 + y^2 \pm 2dy + d^2 = a^2. \text{ But from the nature of the parabola, } y^2 = bx, \text{ and } x^2 = \frac{y^4}{b^2}; \text{ substituting therefore these values}$$

for x^2 and x , it will be $\frac{y^4}{b^2} \pm \frac{2cy^2}{b} + y^2 \pm 2dy + c^2 + d^2 - a^2 = 0$. Or multiplying by b^2 , $y^4 \pm 2bcy^2 + b^2x^2 \pm 2db^2x + b^2c^2 + b^2d^2 - b^2a^2 = 0$. Which may represent any biquadratic equation that wants the second term; since such values may be found for a, b, c , and d , by comparing this with any proposed biquadratic as to make them coincide. And then the ordinates from the points P, P, P, P , on the axis, will be equal to the roots of that proposed biquadratic; and this may be done though the parameter of the parabola, *viz.* b , be given: that is, if you have a parabola already made or given, by it alone you may resolve all biquadratic equations, and you will only need to vary the center of your circle and its radius.

If the circle described from the center (*ibid.* n^o. 6.) pass through the vertex A , then $CP^2 = CA^2 = CD^2 + AD^2$, that is $a^2 = d^2 + c^2$; and the last

term

term of the biquadratic ($c^2 + d^2 - a^2$) will vanish; therefore dividing the rest by y , there arises the cubic $y^3 * \pm 2bc + b^2 \times y \pm 2db^2 = 0$.

Let the cubic equation proposed to be resolved be $y^3 * \pm py \pm r = 0$. Compare the terms of these two equations and you will have $\pm 2bc + b^2 = \pm p$, and $\pm 2d$

$$b^2 = \pm r, \text{ or } \mp c = \frac{b}{2} \mp \frac{p}{2b}, \text{ and } d =$$

$$\pm \frac{r}{2b^2}. \text{ From which you have this con-}$$

struction of the cubic $y^3 * \pm py \pm r = 0$, by means of any given parabola A P E. From the point B, take in the axis (forward if the equation has $-p$, but backwards if p is positive) the line B D = $\frac{p}{2b}$; then raise the perpendicular D C =

$$\frac{r}{2b^2}, \text{ and from C describe a circle passing}$$

through the vertex A, meeting the parabola in P; so shall the ordinate P M be one of the roots of the cubic $y^3 * \pm py \pm r = 0$. The ordinates that stand on the same side of the axis with the center C, are negative or affirmative, according as the last term r is negative or affirmative; and those ordinates have always contrary signs that stand on different sides of the axis. The roots are found of the same value; only they have contrary signs when r is positive, to what they have when it is negative, the second term of the equation being wanting.

We have now shewn how the roots of cubic and biquadratic equations may be constructed by the parabola and circle; but whosoever is curious to know how other conic sections may be determined, by whose intersections the same roots may be discovered, is desired to consult Mr. Maclaurin's Algebra, Renatus Slusius in Mesolabium, De la Hire's Construction des equations Analytiques, Sir Isaac Newton at the end of his Algebra, Dr. Halley's Construction of cubic and biquadratic equations, Mr. Colson's in the Philosophical Transactions, and De l'Hospital's Traité Analytique des Sections Coniques.

CONSTRUCTION, in grammar, the connecting the words of a sentence according to the rules of the language.

Construction is either simple or figurative, according as the parts of the discourse are placed in their natural order; or recede from that simplicity, when short-

er and more elegant expressions are used than the nature affords.

The construction of words, called syntax, is distinguished into two parts, concord and regimen. See SYNTAX, CONCORD, and REGIMEN.

CONSUALIA, in roman antiquity, a festival instituted by Romulus, who at the time of the rape of the Sabine virgins found an altar under ground dedicated to the god Consus, that is Neptune. They were introduced with a magnificent cavalcade, and during the celebration, the horses and asses were crowned with flowers, and a mule was sacrificed to that god.

Servius says the consualia fell on the 13th of August. Plutarch places them on the 18th, and the old roman calendar on the 21st of that month.

CONSUBSTANTIAL, among divines, a term denoting something of the same substance with another. Thus the orthodox believe the son of God to be consubstantial with the father. The word *ομοουσιος*, consubstantial, was first adopted by the fathers of the councils of Antioch and Nice, to express the orthodox doctrine more precisely, and to serve as a barrier and precaution against the errors and subtleties of the Arians, who owned every thing except the consubstantiality.

CONSUBSTANTIATION, a tenet of the lutheran church with regard to the manner of the change made in the bread and wine in the eucharist.

The divines of that profession maintain, that after consecration, the body and blood of our Saviour are substantially present, together with the substance of the bread and wine which is called consubstantiation or impanation. See the articles LUTHERANS and IMPANATION.

CONSUETUDINIBUS and **SERVITIIS**, in law, is a writ which lies against a tenant that deforces a lord of the rent and service due.

CONSUL, the chief magistrate of the roman commonwealth. They were two in number, chosen every year in the campus martius, by the people assembled in the comitia centuriata. In the first times of the commonwealth, no man could pretend to this dignity, but such as were of a patrician family; but afterwards the people obtained, that one of the consuls should be chosen from among them. A consul was commonly chosen at 43 years of age, but this was not always observed: besides, it was requisite he should have

exercised other offices, as that of quæstor, ædile and pretor : and yet this condition was no better observed than the first ; for Pompey had never been pretor nor quæstor when he obtained the consulship. Their authority and power was of very great extent, so long as the commonwealth subsisted. They were the head of the senate : they commanded the armies, and were supreme judges of the differences between the citizens ; but as they had made some abuse of this power, it was allowed by the valerian law for the party aggrieved to appeal from their tribunal to the people, especially in cases where the life of a citizen was concerned. Under the emperors, consul was little more than an honourable title, and at last it became absolutely extinct in the time of Justinian. From the establishment of the republic to the consulate of Basil, that is, from the year of Rome 244, to the year of Rome 1294, the years were accounted by the consuls ; but after that period, the time was computed by the years of the emperors reigns and the indictions.

In the middle age, we find the word consul used for comes, and proconsul or viscount, for viscount, as is observed by Spelman and De Marca. See the article COUNT.

CONSUL, at present, is an officer established by virtue of a commission from the king and other princes, in all foreign countries of any considerable trade, to facilitate and dispatch business, and protect the merchants of the nation. The consuls are to keep up a correspondence with the ministers of England residing in the courts whereon their consulate depends. They are to support the commerce and the interest of the nation ; to dispose of the sums given and the presents made to the lords and principals of places, to obtain their protection, and prevent the insults of the natives on the merchants of the nation.

By the treaty of Utrecht between Great Britain and Spain, the consul residing in the king of Spain's dominions shall take inventories of the estates of the English dying intestate in Spain ; and these estates shall be intrusted with two or three merchants, for the security and benefit of the proprietors and creditors.

The statute of 9 Geo. II. enacts, that it shall be lawful for persons appointed by the consuls at the ports of Cadiz and St. Mary's in Spain, with the majority of

the british factors and merchants there, to receive from all british and irish ships trading there, any sums of money not exceeding one rial plate per ducat on the freight of goods and merchandize there imported, and on all tonnage goods not exceeding two rial plates per ton, and all their bills of lading shall specify to pay the same under denomination of contribution. And all british and irish commanders trading to the said ports, and delivering there, shall, within ten days after their arrival, deliver a manifesto upon oath, specifying the particulars of the cargo, and to whom consigned ; which oath is to be administered by the consul, or whom he shall appoint, and the clearances outwards detained by him till payment of the money is made ; and any departing without his clearances, the consul, on such master's return to any port in the king's dominions, may have an action at law against him for the said money. All monies raised to be applied to the relief of shipwrecked mariners or other distressed persons his majesty's subjects, and other charitable uses, are appointed by the consul.

CONSULS in France, are judges elected among merchants in ports and trading towns, to terminate, gratis and on the spot, such differences as may arise relating to merchandizes, bills of exchange, and other articles of commerce. The qualifications necessary for obtaining the consulship at Paris, and in several other places, are, 1. To have been, or to be actually a merchant. 2. To be a native of the kingdom. 3. To be an inhabitant of that city. 4. To be of an unblemished character.

CONSULAR, something belonging to a consul. See the article CONSUL.

CONSULTATION, in law, a writ by which a cause being removed from the spiritual court to the king's court, is returned thither again ; and the reason is, that if the judges of the king's court, by comparing the libel with the suggestion of the party, find the suggestion false or not proved, and on that account the cause to be wrongfully called from the ecclesiastical court, then upon this consultation or deliberation they decree it to be returned. This writ is in the nature of a proceeding ; yet properly a consultation ought not to be granted, only in case where a person cannot recover at the common law. In causes of which the ecclesiastical and spiritual courts have jurisdiction, and

and they are not mixed with any temporal thing; if suggestion is made for a prohibition, a consulation shall be awarded. See the article PROHIBITION.

CONSUMMATION, the end or completion of a work. Thus we say, the consummation of all things, meaning the world.

Consummation of marriage, the last act of marriage which makes its accomplishment, or the most intimate union between the married pair.

CONSUMPTION, in medicine, a word of very extensive signification, implies all disorders that bring any decay or waste upon the constitution.

Physicians divide it into several kinds, according to the variety of its causes, as universal or scorbutic consumption, where it arises from a cacochymia, or scorbutic habit; and pulmonic consumption, where it arises from some cause in the lungs, properly called a phthisis. See the articles SCURVY and PHTHISIS.

A consumption may either be hereditary, natural, or accidental. In the first case, the taint is originally fixed in the constitution of the embryo, and interwoven with its first principles of life. A natural consumption may proceed from the straitness of the thorax, or a particular ill formation in some of the principal viscera; and the last species, called also symptomatic consumptions, derive their origin, or in some sort depend upon various distempers; as, 1. A consumption arising from a gonorrhœa, or a fluor albus, if it be confirmed, and hath been of a long standing, is very difficult to cure: if it be recent, the running is to be stopped with great caution; and the hectic heats, if any, are to be allayed by means of a milk diet, or the chalybeate mineral waters. 2. A consumption from abscesses and ulcers, in which case the ulcer must be seasonably healed with the use of internals as well as externals; internal balsamics must be prescribed, and the greatest care taken after the cure of the ulcer, lest a pulmonary consumption should follow, wherefore issues are to be made, and the use of balsamics continued, with a milk diet and mineral waters. 3. A consumption from giving suck. The infant is to be weaned in time, and the nurse to use a diet that yields good nourishment; and if a hectic disposition requires it, a milk diet and chalybeate waters. 4. A scrophulous consumption, which is known by

the glandulous tumours in the outward parts of the body, and from the frequent returns of sore eyes and the itch. For the cure, unless there is an obstruction of the liver attended with a dropsy, chalybeate waters must be drank a considerable time in summer. In winter, gums and balsamics must be taken; and in the spring, a diet-drink with millepedes and antiscrophulous and pectoral ingredients. Opiates should not be given but in cases of necessity. 5. A scorbutic consumption, the principal diagnostics of which are an eruption of spots disposed here and there throughout the whole skin, almost a continual discharge of a viscid saline pus from the jugular glands, especially in the morning; and an exulceration and extenuation of the jaws. The cure of this disease differs from the general method in the following particulars. Opiates are always noxious: the pectoral medicines should be such as incise and cleanse: they should likewise be blended with antiscorbutics, as water-creffes, &c. and steel is also useful, unless the disease is too far advanced. 6. An asthmatic consumption, for which there is nothing better than a fine, thin, wholesome air; and when this disease proceeds from a convulsive asthma, hartshorn drops will be beneficial. 7. A consumption proceeding from hypochondriac and hysterical affections, in which, besides the general method of cure, antihysterics must be given. 8. A consumption proceeding from the green sickness, and a suppression of the menses, with many others, as a consumption from a diarrhœa, a dysentery, a diabetes, a salivation, a dropsy, &c. which have nothing peculiar in the manner of their cure but what relates to the primary diseases and a phthisis in general. See the articles PHTHISIS, DIARRHOEA, DIABETES, &c.

CONTACT, is when one line, plane, or body is made to touch another, and the parts that do thus touch, are called the points or places of contact. The contact of two spherical bodies, and of a tangent with the circumference of a circle, is only in one point.

CONTAGION, in physic, the communicating a disease from one body to another. In some diseases it is only affected by an immediate contact or touch, as the venom of the pox; in others it is conveyed by infected cloaths, as the itch; and in others it is transmitted through the air at a considerable distance, by means

of steams or effluvia expiring from the sick, as in the plague and other pestilential disorders, in which case the air is said to be contagious; that is, full of contagious particles. See the articles **PLAGUE**, **POISON**, &c.

CONTEMPLATION, an act of the mind, whereby it applies itself to consider and reflect upon the works of God, nature, &c.

Contemplation among mystic divines, is defined a simple, amorous view of God as present to the soul; and is said to consist in acts so simple, so direct, so uniform and peaceful, that there is nothing for the mind to take hold of whereby to distinguish it.

CONTEMPORARY, a person or thing that existed in the same age with another. Thus Socrates, Plato, and Aristophanes were contemporaries.

CONTENEMENT, in our old law-books, a term of different import; being sometimes used for credit, or countenance; and, at other times, for the maintenance proper for each person, according to his rank and condition in the commonwealth.

CONTENT, in geometry, the area or quantity of matter or space included in certain bounds.

The content of a tun of round timber is 43 solid feet. A load of hewn timber contains 50 cubic feet: in a foot of timber are contained 1728 cubic or square inches; and as often as 1728 inches are contained in a piece of timber, be it round or square, so many feet of timber are contained in the piece.

For the contents of cylindrical vessels, and vessels of other figures, see the article **GAUGING**.

CONTENTIOUS JURISDICTION, in law, denotes a court which has power to decide differences between contending parties.

The lords-justices, judges, &c. have a contentious jurisdiction; but the lords of the treasury, the commissioners of the customs, &c. have none, being merely judges of accounts and transactions.

CONTESSA, a port town of Turkey in Europe, in the province of Macedonia, situated on a bay of the Archipelago, about 200 miles west of Constantinople: east long. 25°, and north lat. 41°.

CONTEXT, among divines and critics, that part of scripture or of a writing that precedes and follows the next. See the article **TEXT**.

In order to have the full sense of the text, the context should be regarded;

CONTI, a town of Picardy, in France, about fifteen miles south-west of Amiens: east long. 2° 20', north lat. 49° 40'.

CONTIGNATION, in the ancient architecture, the art of laying rafters together, and particularly flooring. See the articles **FLOOR** and **RAFTERS**.

CONTIGUITY, in geometry, is when the surface of one body touches that of another.

CONTIGUOUS ANGLES, in geometry, are such as have one leg common to each angle, and are sometimes called adjoining angles, in contradistinction to those produced by continuing their legs through the point of contact, which are called opposite or vertical angles. See **ANGLE**.

The sum of any two contiguous angles, is always equal to two right angles.

CONTINENT, in general, an appellation given to things continued without interruption; in which sense we say, continent fever, &c. See the article **FEVER**.

CONTINENT, in geography, a great extent of land not interrupted by seas, in contradistinction to island, peninsula, &c.

According to what relations we have of the disposition of the globe from late navigators, we may count four continents, of which there are but two well known. The first, called the antient continent, comprehends Europe, Asia, and Africa. The second is the new continent, called America. The third, which is called the northern or arctic continent, comprehends Greenland, the lands of Spitzberg, Nova Zembla, and the lands of Jesso. The fourth comprehends New Guinea, New Zealand, New Holland, and several others hitherto little known. Some authors think the two first continents are in reality only one, imagining the northern parts of Tartary to join with those of north America.

CONTINENT cause of a distemper, that upon which the disease depends so immediately, that it continues so long as that remains, and no longer.

CONTINGENT, something casual or uncertain. Hence future contingent, in logic, denotes a conditional event which may or may not happen, according as circumstances fall out. The Socinians maintain, that God cannot foresee future contingents, because depending on the free motions of the will of man.

CONTINGENT is also a term of relation for the quota that falls to any person upon a division. Thus each prince in Germany, in time of war, is to furnish so many men,

men, so much money and munition for his contingent.

CONTINGENT USE, in law, is an use limited in a conveyance of lands which may or may not happen to vest, according to the contingency mentioned in the limitation of the use. And a contingent remainder, is when an estate is limited to take place at a time to come, on an uncertain event.

CONTINGENT LINE, in dialling, is a line that crosses the substyle at right angles. See **SUBSTYLAR** and **DIALLING**.

CONTINGENTS are sometimes used by mathematicians in the same sense as tangents. See the article **TANGENT**.

CONTINUAL CLAIM, in law, a claim that is made from time to time within every year and a day to lands, &c. which in some respect one cannot attain without danger.

CONTINUANCE, in law, is the continuing of a cause in court by an entry made for that purpose upon the records there.

CONTINUANCE of a writ or action, is its continuing in force from one term to another, where the sheriff has not returned a former writ issued out in the same action. With respect to continuances, the court of king's bench is not to enter them on the roll till after issue or demurrer, and then they enter the continuance of all on the back, before judgment.

CONTINUANDA ASSISA. See **ASSISA**.

CONTINUANDO, a term used in a special declaration of trespass, where the plaintiff would recover damages for several trespasses in one and the same action. To avoid multiplicity of suits, a person may in one action of trespass, recover damages for many trespasses committed, by laying the same to be done with a *continuando*.

CONTINUANDO PROCESSUM. See the article **PROCESSUM**.

CONTINUATION of motion. See the articles **MOTION** and **PROJECTILE**.

CONTINUATO, in music, signifies, especially in vocal music, to continue or hold on a sound in an equal strength or manner, or to continue a movement in an equal degree of time all the way.

CONTINUED FEVER, a fever attended with exacerbations and slight remissions, but no intermissions.

CONTINUED PROPORTION, in arithmetic, is that where the consequent of the first ratio is the same with the antecedent

of the second; as 4 : 8 :: 8 : 16, in contradistinction to discrete proportion. See the article **DISCRETE**.

CONTINUED thorough bass, in music, that which continues to play constantly, both during the recitatives, and to sustain the chorus. See the article **CHORUS**.

CONTINUITY, is defined by some schoolmen the immediate cohesion of parts in the same quantum; by others, a mode of body whereby its extremities become one; and by others, a state of body resulting from the mutual implication of its parts. There are two kinds of continuity, mathematical and physical. The first is merely imaginary, since it supposes real or physical parts where there are none. Physical continuity is that state of two or more particles, in which their parts are so mutually implicated, as to constitute one uninterrupted quantity or continuum. The schoolmen again divide it into two other sorts of continuity, as, 1. *Homogeneous continuity*, that where our senses cannot perceive the bounds or extremes of the parts; and this agrees to air, water, metals, &c. 2. *Heterogeneous continuity*, where the extremities of certain parts are indeed perceived by the senses, yet, at the same time, the parts are observed to be linked closely to each other, either in virtue of their situation or figure, &c. and this is chiefly attributed to the bodies of plants and animals.

In medicine and surgery, wounds, ulcers, fractures, &c. are expressed by the phrase *solutio continui*, or solution of continuity.

CONTINUO, in music, signifies the thorough bass, as *basso continuo* is the continual or thorough bass, which is sometimes marked in music books by the letters *B. C.*

CONTINUO is also a species of harmony or mode, mentioned by Julius Pollux, and which, says Zarlino, answers to the perpetual burden of our bagpipes, which now and then must be harmonious.

CONTORSION, in medicine, has many significations. 1. It denotes the iliac passion. 2. An incomplete dislocation, when a bone is in part, but not intirely, forced from its articulation. 3. A dislocation of the vertebræ of the back sideways, or a crookedness of these vertebræ. And, 4. A disorder of the head, in which it is drawn towards one side, either by a spasmodic contraction of the muscles on the same side, or a palsy of the antagonist muscles on the other.

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CONTOUR, in painting, the out-line, or that which defines a figure.

A great part of the skill of the painter lies in managing the contours well. Contour, with the italian painters, signifies the lineaments of the face.

CONTOURNE, in heraldry, is used when a beast is represented standing or running with its face to the sinister side of the escutcheon, they being always supposed to look to the right, if not otherwise expressed.

CONTOURNIATED, a term among antiquaries applied to medals, the edges of which appear as if turned in a lathe. This sort of work seems to have had its origin in Greece, and to have been designed to perpetuate the memories of great men, particularly those who had bore away the prize at the solemn games. Such are those remaining of Homer, Solon, Euclid, Pythagoras, Socrates, and several athletes.

CONTRA FORMAM COLLATIONIS, a writ that lies to recover lands which being given in perpetual alms to a religious house, hospital, school, or the like, have been alienated by the governors or managers.

CONTRA FORMAM FEOFFAMENTI, is a writ which lies for the heir of a person enfeoffed of lands or tenements, who is distrained by the lord for more services than are contained in the charter of feoffment.

CONTRABAND, in commerce, a prohibited commodity, or merchandise bought or sold, imported or exported, in prejudice to the laws and ordinances of a state, or the public prohibitions of the sovereign. Contraband goods are not only liable to confiscation themselves, but also subject all other allowed merchandise found with them in the same box, bale or parcel, together with the horses, waggons, &c. which conduct them. There are contrabands likewise, which, besides the forfeiture of the goods, are attended with several penalties and disabilities.

The principal goods prohibited to be imported into Great Britain, are * alamoses and lustrings, except in the port of London, and by license; * ammunition without licence from the king; * arms, without licence from the king; * beet; bits for bridles; * popish books; brandy in casks less than 60 gallons, or in ships less than 15 tuns burden; * buttons of all sorts; printed, painted, stained or dyed calicoes; cards for wool, and playing

cards; * cattle; chocolate ready made, or cocoa paste; cinnamon, without licence, except from India; * woollen cloths; cloves, without licence, except from India; * cheefe and butter from Ireland; dice; east-india, persia, and china wrought silks, bengals, stuffs mixed with silk, or herba, except into the port of London, and under special regulations; fish of all sorts taken by foreigners, and imported in foreign ships, except stock-fish, live eels, sturgeon, botargo or cavier, and anchovies; * fringes of silk or thread; gold or silver thread, lace, fringe, or other works made thereof; * malt from beyond sea; * mutton; salt in ships under twenty tun or not in bulk; * sheep; silk embroidered, raw, and mohair yarn, of the product or manufacture of Asia, from any ports or places on the Streights or Levant seas, except such as are within the dominions of the grand signior; thrown silk, except from Italy, Naples, or Sicily; twined silk; * wrought silk mixed with gold, silver, or other materials; * swine; tea, except from the place of its growth; all tobacco-stalks and stems; all tobacco, wine, brandy, east-india or other commodities, other than the growth or manufacture of the isle of Man, prohibited to be brought from thence into Great Britain or Ireland, on any pretence whatsoever; * utensils of war, without licence from the king; * cut whalebone; wire of iron or latten for wool; cards and all iron wire smaller than fine and superfine, and all wares made of iron wire.

Goods prohibited to be exported, are boxes, cases or dial-plates for clocks and watches without the movement and makers names; bullion, without proper certificates, oaths, &c. frames for stockings; raw hides; unwrought horns; metal not of british ore, except copper-bars; wool; scowring and fullers clay; sheep and sheepskins with the wool; tallow; utensils used in the silk and woollen manufactory; white ashes, &c.

N. B. Such goods in the foregoing list as have an asterisk prefixed before them, besides the forfeiture in common with the rest, are attended with several penalties.

CONTRACT, in a general sense, a mutual consent of two or more parties, who voluntarily promise and oblige themselves to do something, pay a certain sum, or the like. All donations, exchanges, leases, &c. are so many different contracts.

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CONTRACT, in common law, an agreement or bargain between two or more persons with a legal consideration or cause; as where a person sells goods, &c. to another for a sum of money; or covenants, in consideration of a certain sum, or an annual rent, to grant a lease of a messuage, &c.

These are good contracts in law, because there is one thing in consideration for another: but if a person promises to give or pay 20 s. which afterwards, on being demanded, he refuses to pay, no action lies to recover it; because such a promise will not amount to a contract, it being no more than a bare promise, termed in law *nudum pactum*: yet, if any thing was given in consideration of such a promise, were it but to the value of a penny, it is deemed a good contract, and consequently will be binding. In contracts the time is to be regarded, in and from which they are made; and there is a difference where a day of payment is limited thereon, and where not: for when it is limited, the contract is good presently, and an action lies on it without payment; but, in the other case, it is otherwise.

Usurious CONTRACT, is an agreement to pay more interest for money than the laws allow.

It is a devastavit in executors to pay a debt upon an usurious contract. In marriage, the romanists distinguish the civil contract, which is the consent of the parties, from the sacrament, which is the benediction of the priest: those contracts are said to be null and void, which the law prohibits the making of.

CONTRACT is also used for the instrument in writing which serves as a proof of the consent granted, and the obligation passed between the parties.

CONTRACTILE FORCE, that property or power inherent in certain bodies, whereby, when extended, they are enabled to draw themselves up again to their former dimensions.

CONTRACTION, in grammar, is the reducing of two syllables into one, as *can't* for *cannot*, *should'st* for *shouldst*, &c. The greek language, both in its verbs and nouns, abound in contractions, as *βίαν* is contracted into *βίω*, *αἰών*, contracted into *αἰώ*, &c.

The french language has in its pronunciation, at least, something like it, as when they pronounce *saouler*, *baailler*, *paon*, &c. in this manner, *souler*, *bailler*, *pan*, &c.

CONTRACTION, in logic, a sort of reduction, whereby things are abridged or brought into less compals.

The use of contraction is to bring things, that before were too lax and diffusive, nearer together, so that their mutual relation may appear the more distinct, and that they may strengthen and support one another the better: thus, in the following argumentation, *Ex ista enunciatione, ergo nunc sum stans, sequitur ista enunciatio, ergo nunc sum existens: id est, ex ista sequitur sum*. Or in english thus, *From the proposition, therefore now I am standing, follows this other, therefore now I am existing*; which may be contracted into, *Standing implies existing*.

To this head are referred the arguments of poems and orations, the titles and summaries of chapters, &c.

CONTRACTION, in physics, the diminishing the extent or dimensions of a body, or the causing its parts to approach nearer to each other, in which sense it stands opposed to dilatation or expansion. See the article **DILATATION** and **EXPANSION**. Hence contraction is frequently used by anatomists, to express the shrinking up of a fibre, or an assemblage of fibres, when extended. As paralytic disorders generally proceed from too great a laxness of the fibres in the part affected; so, on the other hand, convulsions and spasms proceed from a preternatural contraction of the muscles of the part convulsed. See the articles **MUSCLE** and **FIBRE**.

CONTRADICTION, a sort of direct opposition, wherein one thing is found directly contrary to another.

It is usually defined in the schools, *oppositio inter ens & non-ens, medio carens*; where by *ens & non-ens*, are meant any two extremes, one whereof affirms and the other denies; and it is said to be *medio carens*, in order the better to distinguish it from other species of oppositions: for the extremes here neither agree in subject, as is the case in form and privation, nor in essence and kind, as in contrariety. See the article **CONTRARIETY**.

CONTRADICTORY, in a legal sense, a person that has a title to contradict or gainsay.

An inventory of the goods of a minor should be made in presence of his guardian, or trustee, he being the legal contradictor. A decree against a farmer has no effect on the landlord, the first not being the legitimate contradictor.

CONTRADICTORY PROPOSITIONS, in logic,

gic, are such as differ both in quality and quantity, one being universal, and the other particular, which constitutes the opposition of quantity; one affirmative and the other negative, which makes the opposition in quality: thus, *A. Every vine is a tree. O. Some vine is not a tree.* These can never be both true, and both false at the same time. To this it is necessary that the one deny, and the other affirm, the same thing of the same subject, considered in the same circumstances, every thing having always its own essence. This logicians express by *affirmare & negare idem, de eodem secundum idem.* If two universals differ in quality, they are contradictory; as, *A. Every vine is a tree. E. No vine is a tree.* Those can never be both true together, but they may be both false. If two particular propositions differ in quality only, they are sub-contradictory; as, *J. Some vine is a tree. O. Some vine is not a tree.* These may be both true together, but they can never be both false. There are likewise contradictory propositions on an individual, which are called single contradictories; as, *Peter is just, Peter is not just.* Now in such as these, Peter must be considered at the same time, without which they may be both true; since there was a time wherein Peter was just, and wherein he was not.

Seeming contradictories is when the members of a period quite disagree in appearance and sound, but perfectly agree and are consistent in sense: thus,

“Cowards die many times before their death;

“The valiant never taste of death but once.”

Shakespear.

CONTRA-FISSURE, in surgery, a kind of fracture, or fissure, in the cranium, which sometimes happens on the side opposite to that which received the blow; or, at least, at some distance from it. The most certain symptoms of a contra-fissure are vehement pains, vomitings, vertigo, noise in the ears, &c. If these happen, and no fracture or depression of the cranium be found, where the wound was received, there is a suspicion of a contra-fissure, especially if the patient is apt to point to that part.

If the symptoms be by intervals, or not to a great degree, or there be reason to believe the fissure to have reached only thro' one of the tables, it is sufficient to bore down to the diploë, and dress with bal-

samic medicines: but where any violent symptoms come on, which demonstrate an extravasation of blood in the cavity of the cranium, the trepan is to be called for without delay. See **TREPAN**.

CONTRA-HARMONICAL PROPORTION, in arithmetic, is that relation of three terms, wherein the difference of the first and second is to the difference of the second and third as the third is to the first: thus, 3, 5, and 6 are numbers contra-harmonically proportional, for 2 : 1 :: 6 : 3.

CONTRA-INDICATION, in medicine, an indication which forbids that to be done, which the main scope of a disease points out: as if, in the cure of a disease, a vomit was judged proper; if the patient be subject to a vomiting of blood, it is a sufficient contra-indication as to its exhibition. See **INDICATION**.

CONTRALTO, in music, a term used by the Italians for two haut contres, because they play contrary to each other. See the article **HAUT CONTRE**.

CONTRAMANDATIO placiti, in antient law-books, seems to signify a respiting, or giving the defendant further time to answer; or an imparlance, or countermanding what was formerly ordered.

CONTRAMANDATUM is said to signify a lawful excuse, which the defendant in any suit, by his attorney, alledges for himself, to shew that the plaintiff has no reason to complain.

CONTRAMURE, in fortification, is a wall built before another partition-wall, to strengthen it, so that it may receive no damage from the adjacent buildings. See **WALL** and **RAMPART**.

CONTRAPOSITION, among logicians, the same with conversion. See the article **CONVERSION**.

CONTRARIETY, an opposition between two things, which imports their being contrary to one another; and consists in this, that one of the terms implies a negation of the other, either mediately, or immediately; so that contrariety may be said to be the contrast, or opposition of two things, one of which imports the absence of the other, as love and hatred.

CONTRARY, a positive opposite, which, subsisting by turns in the same subject with its opposite, is as remote from it as possible, expels it, and is mutually expelled by it. Blackness and whiteness, cold and heat, are such contraries. Hence qualities alone can, strictly speaking,

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ing, be contraries; contrariety, in effect, only agreeing to qualities *per se*: to other things it agrees *per accidens*.

Contrary is, however, often used in a more extensive and general sense, that is, for any opposition or difference between the nature of things. It is a maxim in philosophy, that *contraria juxta se posita elucescunt*; i. e. that contraries set off one another.

CONTRARY, in rhetoric. F. de Colonia lays down three kinds of contraries in oratory, *viz.* adverbatives, privatives, and contradictories. Adverbatives are those that differ much in the same thing, as virtue and vice, war and peace, as in this of Cicero, *Si stultitium fugimus, sapientiam sequamur; & bonitatem, si malitiam*; and in this of Quintilian, *Malorum causa bellum est, erit emendatio pax*.

Drances, in Virgil, argues thus, *Nulla salus bello; pacem te poscimus omnes*. Privatives are habits, and their privations. Contradictories are those, one whereof affirms, and the other denies the same thing of the same subject.

CONTRAST, in painting and sculpture, expresses an opposition or difference of position, attitude, &c. of two or more figures contrived to make variety in a painting, &c. as where, in a groupe of three figures, one is shewn before, another behind, and another sideways, they are said to be in contrast.

The contrast is not only to be observed in the position of several figures, but also in that of the several members of the same figure: thus, if the right arm advance farthest, the right leg is to be hindermost; if the eye be directed one way, the arm to go the contrary way, &c. the contrast must be pursued even in the drapery.

CONTRAST, in architecture, is to avoid the repetition of the same thing, in order to please by variety.

CONTRATE-WHEEL, in watch-work, that next to the crown, the teeth and hoop whereof lie contrary to those of the other wheels, from whence it takes its name. See the article CLOCK.

CONTRAVALLATION, or the line of CONTRAVALLATION, in fortification, a trench guarded with a parapet, and usually cut round about a place by the besiegers, to secure themselves on that side, and to stop the sallies of the garrison. See the article FORTIFICATION.

It is without musquet-shot of the town, so that the army forming a siege, lies be-

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tween the lines of circumvallation and contravallation. See the article CIRCUMVALLATION.

CONTRAVENTION, in law, a man's failing to discharge his word, obligation, duty, or the laws or customs of the place. The penalties imposed in cases of contravention only pass for comminatory. See the article COMMINATORY.

CONTRAVENTION, in a more limited sense, signifies the non-execution of an ordinance or edict. It is supposed to be the effect of negligence, or ignorance.

CONTRAYERVA, in the materia medica, the name by which the root of the dorkstenia plant is known in the shops. See the article DORSTENIA.

It is an irregular shaped root, knotty and uneven on the surface; its usual length being from one inch to an inch and an half: it is to be chosen in large and fair roots, firm, sound, and of a good colour, full of knobs, not easily broken, and of a pungent acrid taste.

The antients knew nothing of this root. It is brought from New Spain, and is accounted an excellent sudorific: it strengthens the stomach, dispels flatulencies, and helps digestion. It is greatly used in fevers of many kinds, and is even by some recommended against the plague, and other malignant distempers, as one of the greatest known remedies, on account of its antiseptic virtue. It is given in powder and decoction; but with us principally in the form of the lapis contrayerva of the shops: its dose is from ten grains to half a dram.

The lapis contrayerva is composed of crab's claws, prepared, one pound; prepared pearls, and red coral, of each three ounces; powder of contrayerva, five ounces: this used to be wetted into a paste, and made up into balls, whence it has its name. But the new Dispensatory orders it to be kept in powder, under the name of pulvis contrayervæ compositus.

CONTRE, in heraldry, an appellation given to several bearings, on account of their cutting the shield contrary and opposite ways: thus we meet with contre-bend, contre-chevron, contre-pale, &c. when there are two ordinaries of the same nature opposite to each other, so as colour may be opposed to metal, and metal to colour. See COUNTER.

CONTRE-BARRE'. See the article COUNTER-BARRED.

CONTRE-CHANGE. See **COUNTER-CHANGED.**

CONTRE-CHEVRONNE. See the article **COUNTER-CHEVRONED.**

CONTRE-COMPONE. See **COUNTER-COMPONED.**

CONTER-ERMINE, &c. See the article **COUNTER-ERMINE, &c.**

CONTRIBUTION, in a general sense, the payment of each person's quota, or the share he bears in some imposition or common expence. Contributions are either voluntary, as those of expences for carrying on some undertaking for the public interest; or involuntary, as those of taxes and imposts.

CONTRIBUTION, in a military sense, an imposition or tax paid by frontier-countries to an enemy, to prevent their being plundered and ruined by him.

CONTRIBUTIOE FACIENDA, in law, a writ that lies where tenants in common are bound to do the same thing, and one or more of them refuse to contribute their part; as where they jointly hold a mill, *pro indiviso*, and equally share the profits thereof, if the mill falls to decay, and one or more of the persons refuse to contribute to its reparation, the rest shall have this writ to compel them.

CONTRITION, in theology, a sorrow for our sins, resulting from the reflexion of having offended God, from the sole consideration of his goodness, without any regard to the punishment due to the trespass, and attended with a sincere resolution of reforming them.

The scripture never uses this term in this sense; but there are several passages which prove, that, without contrition, there is no repentance, and without repentance no remission of sins.

CONTROL, COMPTROL, or CONTROLE, is properly a double register kept of acts, issues, &c. of the officers or commissioners in the revenue, army, &c. in order to perceive the true state thereof, and to certify the truth, and the due keeping of the acts subject to the enregisterment.

CONTROLLER, an officer appointed to control or oversee the accounts of other officers, and, on occasion, to certify whether or no things have been controlled or examined.

In England we have several officers of this name, controller of the king's house, controller of the navy, controller of the customs, controller of the mint, &c.

CONTROLLER of the hanaper, an officer that attends the lord chancellor daily, in

term and in seal-time, to take all things, sealed in leather bags, from the clerks of the hanaper, and to mark the number and effect thereof, and enter them in a book, with all the duties belonging to the king and other officers, for the same, and so charge the clerk of the hanaper with them.

CONTROLLER of the pipe, an officer of the exchequer, that makes out a summons twice every year, to levy the farms and debts of the pipe. See the articles **PIPE** and **EXCHEQUER**.

CONTROLLERS of the pells, two officers of the exchequer, who are the chamberlain's clerks, and keep a control of the pell of receipts, and goings out.

CONTROVER, in law, a person, who, of his own head, invents and spreads false news.

CONTROVERSY, *controversia*, in the civil law, a contest, or contention, between two or more persons, concerning a certain property.

A man seems to occasion a controversy for property, when he prohibits any body from the possession of his natural right.

CONTUMACY, in law, a refusal to appear in court, when legally summoned; or the disobedience to the rules and orders of a court, having power to punish such offence.

In a criminal sense, the contumacious is condemned, not because the crime is proved on him, but because he is absent.

In England, contumacy is to be prosecuted to outlawry. In France, all contumacies are annulled, if the accused make his appearance in five years; if he die in that time, his relations are permitted to purge his memory.

CONTUSION, in medicine and surgery, any hurt of the body that is inflicted by a blunt instrument; and since, in this case, an infinite number of small vessels and fibres are injured and broken, a contusion may properly be said to be a congeries of an infinite number of small wounds.

Contusions may be distinguished into several sorts: 1. Some may be called simple contusions; that is, when only the soft external parts are injured: some are compound, when the internal or bony parts also partake of the injury. 2. Some contusions are slight, others of great consequence: this depends upon the cause of the injury, and the nature of the part injured. 3. Lastly, some contusions are so circumstanced, which is very wonderful, that

that the internal parts shall be violently affected, whilst the external remain whole and unhurt.

When the small vessels and fibres have been broken by a contusion, the fluids that were contained in them will be forced out: this will occasion obstructions, corruptions, inflammations, and ulcers, and even a gangrene, and several other mischiefs, in proportion to the violence of the cause, and the nature of the part affected. When the external parts are contused, the skin at the same time remaining whole, the blood will stagnate under it, and occasion red, black, and livid spots, &c. and if this happens near a bone, a caries. Contusions may be examined by the eye; for when inflicted upon the external parts of the body, tumours are formed, and the injured part discoloured. When the contusion is not within the reach of the eye, it must be felt for; an unnatural softness of the limb, or a fluctuation of the extravasated blood under the finger, will point out the injured part; pains and rigidity of the contused part will make the same discovery; and lastly, a judgment may be formed of the degree of the contusion, from the manner in, and the instrument with, which it was given. Slight contusions are attended with little or no inconvenience, besides discolouring the skin; and even that deformity is of a very short duration; but in larger contusions, where there is a great collection of stagnating blood in the muscular parts, an abscess, gangrene, or sphacelus will easily follow. Contusions of the internal parts are extremely dangerous, in proportion to the violence of the hurt, and the consequence of the part in performing the necessary offices of life. If instant death does not happen in this case, it is usually attended with such dangerous inflammations, that the patient consumes away by degrees, and rarely escapes. Contusions of the bones, particularly of their medulla, and of the joints or ligaments, are very dangerous, which will make it necessary to cut off the limb, to preserve the life of a patient: but the contusion of the cranium, from the vicinity of the brain, exceeds the rest in the mischievous consequences which attend it: and lastly, if the eye is contused, a tumour and inflammation will succeed, and frequently the loss of sight. The principal care in the cure of contusions, should be to divide the inspissated fluids, and, at the same

time, to prevent the parts, from suppurating and being afflicted with a gangrene. There are several methods successfully used for the cure of slight contusions, as when a tumour arises in the forehead from a fall, it may be cured by fomenting with warm wine, with the spirit of wine, by hungary water, or by applying cold vinegar, mixed with salt, to the part; or by clapping a broad piece of money, or a plate of milled lead upon the tumour, and fastening it on with a very tight bandage. Larger contusions may be dressed with decoctions ex scordio, fabina, abrotano, vel scorsum, vel junctum, in vino vel aqua salsa. Great benefit will be found by applying a sponge dipped in decocto saponis veneti, in urina recenti; or by the applications of aqua calcis cum admixto spiritu vini camphorato; vel acetum semine carvi coctum. These remedies are to be applied warm.

When the contusion is so violent that it is impossible to divide the stagnating fluids, and return them into the circulation, and the parts are hastening to become gangrenous, they must be scarified without delay; which being done, there must be proper fomentations applied, before which the tumour must be rubbed well with hot cloths. See SCARIFICATION.

Where the contusion is of any consequence, the administration of internal medicines should not be neglected, and these must be such as promote the discharge of sweat and urine. In plethoric habits a vein should be opened, and that repeated as often as the patient is threatened with an abscess or gangrene.

The cure of the wound is easily performed, by filling it up with pledgets spread with a digestive medicine, and laying on a warm plaster over the dressings. The patient must abstain from flesh and strong liquors, living wholly upon broths and thin spoon-meat.

CONVAL-LILLY, *convallaria*, in botany. See the next article.

CONVALLARIA, in botany, a genus of the hexandria, monogynia class of plants, comprehending the conval-lilly, or lilly of the valley, *lilium convallium*, solomon's seal, polygonatum, the unifolium, and a species of smilax. In the lilly of the valley, the flower-petal, which is single in all of them, is globose, campanulated, and patent: in solomon's seal, it is tubulato-campanulated, and pointed: in the unifolium, the third part of the fructification is wanting: and in

the smilax the flower-petal is divided into six very acute and patent segments: in all of them the fruit is a trilobular globose berry, containing single and roundish seeds.

CONVENT, in church-history, the same with monastery. See **MONASTERY**.

CONVENTA PACTA. See the article **PACTA CONVENTA**.

CONVENTICLE, a private assembly or meeting, for the exercise of religion. The word was first attributed as an appellation of reproach to the religious assemblies of Wickliffe, in this nation, in the reigns of Edward III. and Rich. II. and is now applied to illegal meetings of non-conformists. There were several statutes made in former reigns, for the suppression of conventicles; but by 1 Will. and Mary, it is ordered, that dissenters may assemble for the performance of religious worship, provided their doors be not locked, barred, or bolted.

CONVENTION, a treaty, contract, or agreement between two or more parties. Every convention among men, provided it be not contrary to honesty, and good manners, produces a natural obligation, and makes the performance a point of conscience. Every convention has either a name and a cause of consideration; or it has none; in the first case it obliges civilly and naturally, in the latter only naturally. See the article **CONTRACT**.

CONVENTION, in antient and modern pleadings, is used for a covenant, or agreement; as in the book of rolls of the manor of Hatfield, in Yorkshire, we have a record of a pleasant convention in the reign of Edward III. between Robert de Ruderham and John de Ithen, the latter of whom sold the devil in a string, for three pence half penny, to the former; to be delivered the fourth day after the convention: when the purchaser making his demand, the seller refused to give him livery; but it appearing to the court that such a plea does not lie among christians, the parties were adjourned to hell for judgment.

CONVENTION is also a name given to an extraordinary assembly of parliament, or the states of the realm, held without the king's writ; as was the convention of estates, who, upon the retreat of king James II. came to a conclusion that he had abdicated the throne, and that the right of succession devolved to king William and queen Mary; whereupon their assembly expired as a convention, and was converted into a parliament.

CONVENTIONE FACIENDA, in law, a writ of covenant, which lies in case of any breach of contract, to oblige the party to stand to his agreement.

CONVENTUAL, in general, denotes something belonging to a convent, or monastery; thus, monks who actually reside in a convent, are called conventuals, in contradistinction to those who are only guests, or in possession of benefices depending on the house.

CONVERGING, or CONVERGENT LINES, in geometry, are such as continually approach nearer one another; or whose distance becomes still less and less. These are opposed to divergent lines, the distance of which become continually greater: those lines which converge one way, diverge the other.

CONVERGING HYPERBOLA, is one whose concave legs bend in towards one another, and run both the same way. See the articles **HYPERBOLA** and **CURVE**.

CONVERGING RAYS, in optics, those rays that, issuing from divers points of an object, incline towards one another, till, at last, they meet and cross, and then become diverging rays.

Thus the rays *AB* and *CB* (plate *L. fig. 2.*) converge till they come to the point *B*; and then they diverge, and run off from one another, in the lines *BE*, *BF*.

CONVERGING SERIES. See the article **SERIES**.

CONVERSE, in mathematics. One proposition is called the converse of another, when, after a conclusion is drawn from something supposed in the converse proposition, that conclusion is supposed; and then, that which in the other was supposed, is now drawn as a conclusion from it: thus, when two sides of a triangle are equal, the angles under these sides are equal; and, on the converse, if these angles are equal, the two sides are equal. See the article **TRIANGLE**.

CONVERSE DIRECTION, in astrology, is used in opposition to direct direction; which last carries the promoter to the significator, according to the order of the signs; but the former carries it from east to west, contrary to the order of the signs.

CONVERSION, in a moral sense, implies a repentance for a temper and conduct unworthy our nature, and unbecoming our obligations to its author, and a resolution to act a wiser and a better part for the future.

CONVERSION,

CONVERSION, in rhetoric, &c. is understood of arguments which are returned, retorted, and shewn on opposite sides, by changing the subject into the attribute, and the attribute into the subject. See the article **ATTRIBUTE**, &c.

CONVERSION, in war, a military motion whereby the front of a battalion is turned where the flank was, in case the battalion is attacked in the flank. See the article **QUARTER-WHEELING**.

As this may often be the case in action, this motion is accounted a most useful and necessary one.

CONVERSION of equations, in algebra, is when the quantity sought, or any part or degree thereof, being in fractions, the whole is reduced to one common denomination, and then omitting the denominators, the equation is continued in the numerators only. Thus suppose

$$a - b = \frac{aa + cc}{d} + b + b; \text{ multiply all by } d,$$

and it will stand thus, $da - dc = aa + cc + db + db$. See **EQUATION**.

CONVERSION of propositions, in logic, the changing of the subject into the place of the prædicate, and the prædicate into the place of the subject; and yet always retaining the same quality of both propositions: as, *Every right-lined triangle has the sum of its angles equal to two right ones: Every right-lined figure, that has the sum of its angles equal to two right ones, is a triangle.*

Conversion is usually defined a due change of the order of the extremes: *i. e.* under such a habitude and coherence, with respect to each other, that the one is rightly inferred from the other.

CONVERT, a person who has undergone conversion. See the article **CONVERSION**. Convert is more frequently used in respect of changes from one religion, or religious sect, to another.

These, with regard to the religion they have relinquished, are denominated apostates, and converts only with relation to the religion turned to. Henry III. built a house in London, for such Jews as turned christians, called *Domus conversorum*, where the proselytes, being obliged to regular customs, had a handsome support allowed them for life.

CONVERTS, in a monastic sense, are lay friers, or brothers, admitted for the service of the house, without orders, and not allowed to sing in the choir.

CONVEX, an appellation given to the exterior surface of gibbous or globular bo-

dies, in opposition to the hollow inner surface of such bodies, which is called concave: thus we say, a convex frieze, lens, mirror, superficies, &c. See the articles **FRIEZE**, **LENS**, &c.

CONVEXITY, that configuration or shape of a body, on account of which it is denominated convex. See **CONVEX**.

CONVEYANCE, in law, a deed or instrument that passes land, &c. from one person to another.

The most usual conveyances are deeds of gift, bargain and sale, lease and release, fines and recoveries, &c. The words *give and grant*, are necessary in a conveyance at common law: but though some maintain that conveyances shall operate according to the words; yet, of late, the judges have a greater regard to the passing of the estate, than to the manner by which it is passed.

CONVICT, in common law, a person that is found guilty of an offence by the verdict of a jury.

The law implies that there must be a conviction before punishment for any offence, though it be not mentioned in any statute. On a joint indictment, or information, some of the defendants may be convicted and others acquitted.

CONVICT RECUSANT, a person who has been legally presented, indicted, and convicted, for refusing to come to church to hear the common prayer, according to the statutes 1 and 2 Eliz. and 3 Jac. I.

CONVICTION, in theology, expresses the first degree of repentance, wherein the sinner becomes sensible of his guilt, of the evil nature of sin, and of the danger of his own ways. See **CONTRITION**.

CONVICTION, in law. See **CONVICT**.

CONVIVIUUM, **BANQUET**, in our old customs, a kind of tenure whereby the tenant was obliged to provide an entertainment for his lord, once, or oftener, every year. It corresponded with the procuration of the clergy. See **PROCURATION**.

CONULUS, in the history of shell-fish, a name by which some call those echini which are of a conical shape: they are frequently found fossil, in which state they are known by the names of scolopendritæ, bufonitæ, and pileæ; in english cap-stones.

CONVOCAION, an assembly of the clergy of England, by their representatives, to consult of ecclesiastical matters. It is held during the session of parliament, and consists of an upper and a lower house. In the upper sit the bishops, and

in the lower the inferior clergy, who are represented by their proctors, consisting of all the deans and archdeacons, of one proctor for every chapter, and two for the clergy of every diocese, in all one hundred and forty-three divines, *viz.* twenty-two deans, fifty-three archdeacons, twenty-four prebendaries, and forty-four proctors of the diocesan clergy. The lower house chooses its prolocutor, whose business it is to take care that the members attend, to collect their debates and votes, and to carry their resolutions to the upper house. The convocation is summoned by the king's writ, directed to the archbishop of each province, requiring him to summon all bishops, deans, archdeacons, &c.

The power of the convocation is limited by a statute of Henry VIII. They are not to make any canons or ecclesiastical laws, without the king's licence; nor when permitted to make any, can they put them in execution, but under several restrictions. They have the examining and censuring all heretical and schismatical books and persons, &c. but there lies an appeal to the king in chancery, or to his delegates. The clergy in convocation, and their servants, have the same privileges as members of parliament. See PARLIAMENT.

CONVOLUTION, a winding motion, proper to the trunks of some plants, as the convolvulus or bindweed, the claspers of vines, bryony, &c.

CONVOLVULUS, BINDWEED, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which consists of a single, patent, campanulated petal, plicated and very lightly divided at the rim: the fruit is a capsule, of a roundish figure, contained within the cup, and formed of one, two, or three valves: the seeds are two, roundish, and often acute: the corolla is usually cut in ten places, but there are species in which these crenæ are but five. See plate LI. fig. 1.

To this genus belong scammony, mechoacan, jalap, and turbith; for the virtues of which see the articles SCAMMONY, MECOACAN, &c.

As to the bindweeds, properly so called, they are cathartic, and said to be good for preventing abortion.

This plant has the reputation of purging off bilious, acrid, and serous humours: the root is cathartic. The women use a decoction of this plant as a preservative

against miscarriages: a decoction of it is also recommended as a mild evacuant of bile.

CONVOY, in marine affairs, one or more ships of war, employed to accompany and protect merchant-ships, and prevent their being insulted by pirates, or the enemies of the state in time of war.

CONVOY, in military matters, a body of men that guard any supply of men, money, ammunition, or provisions, conveyed by land into a town, army, or the like, in time of war.

CONVULSION, *spasmus*, in medicine, a preternatural and violent contraction of the membranous and muscular parts, arising from a spasmodic stricture of the membranes surrounding the spinal marrow, and the nerves distributed from it, and an impetuous influx of the nervous fluid into the organs of motion. See the article SPASM.

Convulsions attack the patient variously; for in some they happen suddenly, without any signs of the approaching disorder; whilst in others, they may be foreseen by various signs. During the convulsive paroxysm, the limbs are surprisingly agitated; sometimes the arms are so retorted towards the back, that the patient seems to sit upon them; sometimes they beat the air: at other times, the legs are drawn into various directions; sometimes they stamp: sometimes the spine of the back is incurvated so as to form an arch, whilst the breast is raised: and at other times the whole body is as stiff as a stone. These agitations seize many in the very posture in which they are, without throwing them on the ground; whilst others, like epileptic patients, fall suddenly down, weep, laugh, grind their teeth, gape, hang out their tongue, and are vertiginous.

After the paroxysm many patients retain an incredible languor of the whole body, many fall into deliriums, and a profound sleep; in others, the disorder is terminated by eructations, an explosion of flatulencies, vomiting, a copious discharge of the lymph, &c. Those are most subject to convulsions, whose nervous systems are either naturally, or by any other cause, weak, especially if their juices be impure. Among the mediate causes which dispose to this constriction of the spinal marrow, the most considerable are violent passions, especially if the patient be exposed to cold, or commits any error in regimen.

Though

Though convulsions are very terrible, they are not suddenly mortal: when they are recent, the patient young, and the constitution sound, an easy and short cure is to be hoped for.

In the cure of convulsive motions, we are first to correct the material causes which support the disorder; prepare them for an elimination, and commodiously evacuate them: then the violent and irregular commotions of the nervous parts must be allayed, and the nervous system corroborated, to prevent a relapse: the cure is not to be obtained by a great variety of drastic remedies; but rather by mild medicines, and such as are friendly to nature. If the disorder arises from a redundancy of humours, or a thickens of the blood, Hippocrates advises venesection, either in the foot or arm, to be used; or scarifications to be interposed: but these motions are rarely removed without a proper air, exercise, and regimen. Warm baths for the feet, prepared of river water, and chamomile-flowers, have a singular efficacy; and also large draughts of cold simple water. If convulsions arise from excess of venery, the patient is by all means to abstain from any thing that produces commotions. If they arise from a suppression of the menses, &c. they must be removed by recalling these evacuations. See the next article.

CONVULSIVE, in medicine, a term applied to those motions which naturally should depend on the will, but are produced involuntarily by some external cause, as a contraction of the muscles, &c. See the preceding article.

Hence convulsive may be applied to any thing that occasions a convulsion, of which there are a great variety. Wounds of the nerves are said to be convulsive: white hellebore is convulsive; and the cramp is a convulsive contraction of some muscular part of the body. Children are much liable to convulsive disorders, arising from various causes, as repletion, curdling of the milk in the stomach or intestines, worms, &c. St. Vitus's dance is a sort of convulsive disorder boys and girls are subject to: it discovers itself by a kind of lameness: this disorder is by some supposed to be a paralytic one, and to proceed from a relaxation of the muscles, which, being unable to perform their functions in moving the limbs, shake them irregularly by jerks. This disorder, as several convulsive disorders do, and particularly epilepsies, keeps pace with the phases of the moon, or with the tides. Purging and blood-letting are recom-

mended according as the age of the patient will bear it, for a cure in this disease. Convulsive motions, occasioned by worms, are to be cured by destroying the worms: for the convulsive asthma, see the article **ASTHMA**.

CONWAY, a market-town of Caernarvonshire, in north Wales, situated near the mouth of a river of the same name, fifteen miles west of St. Asaph: west long. $3^{\circ} 50'$, and north lat. $53^{\circ} 20'$.

CONYZA, **FLEA-BANE**, in botany, a genus of the syngenesia polygamia-superflua class of plants, the compound flower of which is tubulose, consisting both of hermaphrodite and female ones: these last have no flower-petals; but the hermaphrodite ones consist of one infundibuliform petal, divided into five patulous segments at the limb: the stamina are five very short capillary filaments: the seeds are solitary, oblong, and crowned with simple downy filaments, and stand in the cup.

The common flea-bane is recommended in the jaundice, to promote the menses, and in the strangury. Some also make an ointment of its leaves and root, which is said to cure the itch.

CONZA, a town of the kingdom of Naples, in Italy, situated in the farther Principate, on the river Offanto, fifty miles south-east of the city of Naples: east long. 16° , north lat. 41° .

It is the see of an archbishop.

COOK, a person whose business it is to dress and deliver out victuals.

A ship's cook has an assistant, commonly denominated the cook's mate.

COOK-ROOM, in a ship, the place where victuals are dressed.

The cook-room in ships is sometimes situated in the hold, but generally in the fore-castle, where there are furnaces contrived, and other necessities for the purpose. See the article **SHIP**.

COOLER, among brewers, distillers, &c. a large vessel wherein certain liquors are cooled, after having been boiled.

COOLERS, in medicine, those remedies, which affect the organs of feeling with an immediate sense of cold, being such as have their parts in less motion than those of the organs of feeling; as fruits, and all acid liquors: or they are such as, by a particular visciduity, or grossness of parts, give the animal fluids a greater consistency than they had before, and consequently retard their motion; having less of that intestine force on which their heat depends.

Of this sort are cucumbers, and all substances producing viscosity.

We find little prescribed in the shops under the intension of coolers, but great variety may be made by the good housewife: such are lemonade with wine, wine and water, and several juleps, consisting of syrup of lemons or oranges, with wine, rose-water, and the like. Several cooling decoctions may also be made of lemons, pearl-barley, liquorice, &c. in spring water, adding a little cochineal, sugar, or rose-water.

COOM, a term applied to the soot that gathers over an oven's mouth; also for that black, greasy substance, which works out of the wheels of carriages.

Coom or soot is often used in medicine, infused in wine, with other ingredients, as an antihysterical, and against palpitations of the heart, &c. The spirit of soot is also used for the same purposes, and is accounted of great use in cephalic cases.

COOMB, or **COMB** of corn, a dry measure, containing four bushels, or half a quarter. See the article **MEASURE**.

COOMINGS, or **COAMINGS**. See the article **COAMINGS**.

COOPER, in geography, the name of a river in Carolina, in north America.

COOPER, on board a ship, he that looks to the casks, and all other vessels for beer, water, or any other liquor. He has a mate under him.

CO-ORDINATE, something of equal order, rank, or degree with another. See the article **ORDER**.

CO-ORDINATION, in regard of cause, imports an order of causes, wherein a variety of the same kind, order and tendency concur, in the production of the same effect.

COOS, or **LONGO**, an island of the Archipelago, situated near the south-west coast of Natolia, and subject to the Turks: east long. $27^{\circ} 30'$, north lat. 37° .

COPAIBA, or *balsam of COPAIBA*. See the article **BALSAM**.

COPAL, in the materia medica, is a true resin, being inflammable and soluble in oil, tho' it, as well as the anime, and some other bodies of this class, is mis-called a gum.

The true copal is a resin of a considerably firm texture, brought to us from South America in large masses, or in single lumps or drops. The copal greatly resembles amber in appearance; it is of a fragrant smell; its taste is subastrigent

and somewhat aromatic. The Americans use copal as they do anime, for disorders of the head, by way of fumigations. We do not use it at all in medicine, but an excellent varnish is made of it.

COPARCENARY-SHARE, in law, that of coparcenars. See the next article.

COPARCENARS, otherwise called *parceners*, such as have equal portions in the inheritance of their ancestor.

Coparceners are such, either by law, or custom: coparceners by law are the female issue, who, in default of heirs male, come equally to the lands of their ancestor. They may be obliged to make partition of the lands thus descended, but should be made by coparceners at full age. Coparceners by custom, are those who, by some custom of the country, challenge equal parts in such lands, as in Kent, by the custom of gavel-kind.

COPE, among ecclesiastical writers, an ornament usually worn by chantors and subchantors, when they officiated in the church solemnity. It is also worn by romish bishops, and other ordinaries; and reaches from the shoulders to the feet.

COPE, among miners, a duty of six-pence for every load of ore. See **LOAD**.

COPEL, or **COPEL**. See **COPEL**.

COPENHAGEN, the capital of the kingdom of Denmark, situated on the eastern shore of the island of Zealand, upon a fine bay of the Baltic sea, not far from the strait called the Sound: east long. 13° , and north lat. $55^{\circ} 30'$.

It is a strong town, about five miles in circumference, fortified after the modern way; and the harbour is surrounded by forts and platforms, its entrance being so narrow, that only one ship can pass in at a time. It has an university and military academy, and is remarkable for one of the finest museums, or collection of curiosities, in Europe.

COPERAS, or **COPPERAS**, in natural history. See the article **COPPERAS**.

COPERNICAN, in general, something belonging to Copernicus. Hence,

COPERNICAN-SYSTEM, or **HYPOTHESIS**, that system of the world, wherein the sun is supposed at rest in the center, and the planets, with the earth, to move in ellipses round him.

The sun and stars are here supposed at rest, and that diurnal motion which they appear to have from east to west, is imputed to the earth's motion from west to east, round its axis. See the articles **EARTH** and **PLANETS**.

This



Fig. 1. CONSTRUCTION of EQUATIONS.

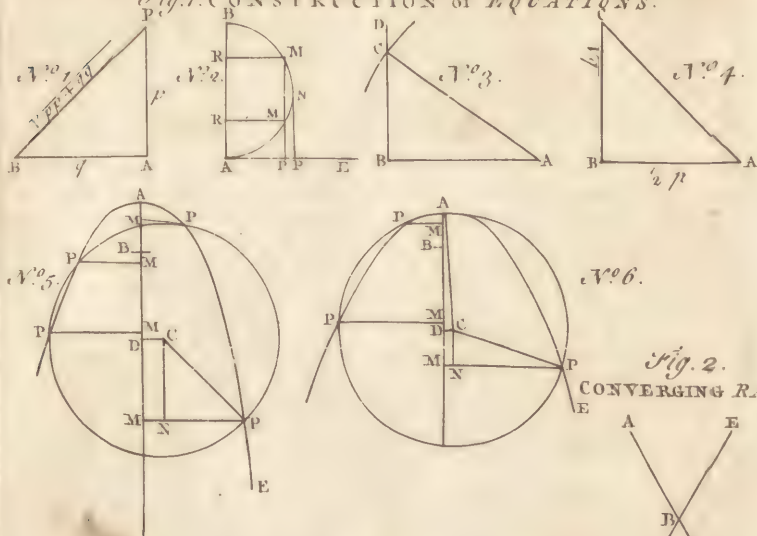


Fig. 2. CONVERGING RAYS.

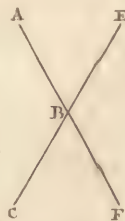
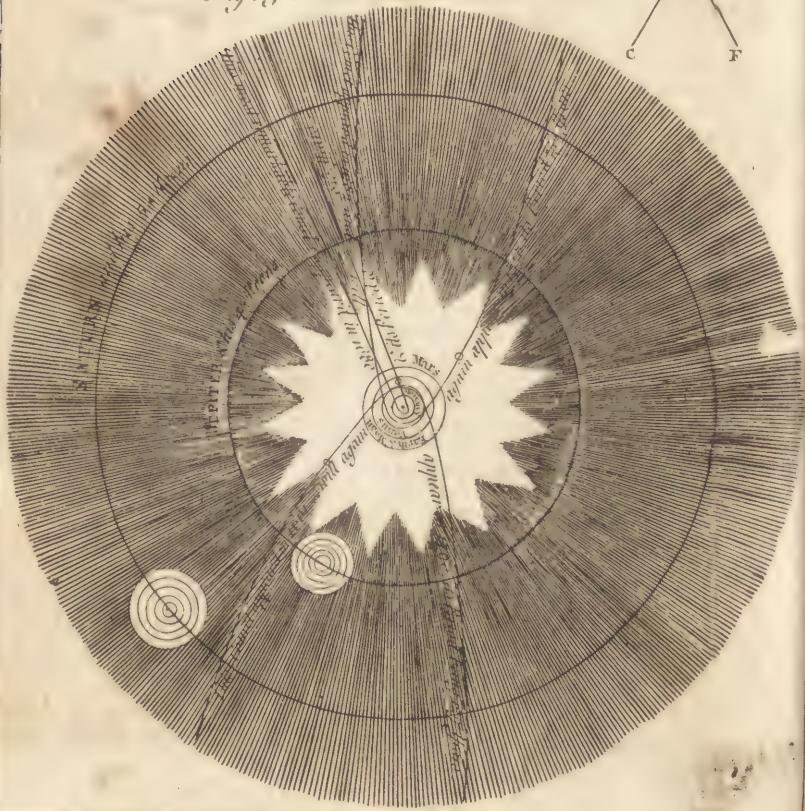


Fig. 3. COPERNICAN SYSTEM.



This system was received of old by Philolaus, Aristarchus, and Pythagoras, from which last it had the name of the pythagoric system: it was also held by Archimedes; but after him it became neglected, and even forgotten for many ages, till it was revived by Copernicus, about the year 1500, and from him named the copernican system.

According to this hypothesis, the sun is supposed very near the center of gravity of the whole system, and in the common focus of every one of the planetary orbits: next him mercury performs his revolution around him; next mercury is the orbit of venus; and next to venus, our earth, with its attendant or secondary the moon, performing a joint course, and in their revolution measuring out the annual period. Next the earth is mars, the first of the superior planets; next him jupiter, and last of all saturn. See plate L. fig. 3.

These and the comets are the constituent parts of the solar system, which is now received and approved as the only true one, for the reasons following. See the articles COMET, VENUS, MARS, &c.

1. It is most simple, and agreeable to the tenor of nature in all her actions; for by the two motions of the earth, all the phenomena of the heavens are resolved, which, by other hypotheses, are inexplicable, without a great number of other motions, contrary to philosophical reasonings. See the articles PTOLEMAIC and TYCHONIC.

2. It is more rational to suppose that the earth moves round the sun, than that the huge bodies of the planets, the stupendous body of the sun, and the immense firmament of stars, should all move round the inconsiderable body of the earth, every twenty-four hours.

3. But that harmony which, upon this supposition, runs through the whole solar system, wonderfully confirms this hypothesis, viz. that the motions of all the planets, both primary and secondary, are governed and regulated by one and the same law, which is, that the squares of the periodical times of the primary planets, are to each other as the cubes of their distances from the sun; and likewise the squares of the periodical times of the secondaries of any primary, are to each other as the cubes of their distances from that primary. Now the moon, which, in the copernican system, is a secondary of the earth, in the other hypo-

thesis is a primary one; and so the rule cannot take place, because the periodical time, considered as that of a primary one, does not agree therewith. See the article PERIOD, &c.

4. Again, this single consideration, Mr. Whiston thinks enough to establish the motion of the earth for ever, viz. If the earth does not move round the sun, the sun must move, with the moon, round the earth. Now the distance of the sun, to that of the moon, being as 10,000 to 46, and the moon's period being less than 28 days, the sun's period would be found no less than 242 years, whereas, in fact, it is but one year.

5. The sun is the fountain of light and heat, which it irradiates through all the system, and, therefore, it ought to be placed in the center, so that the planets may, at all times, have it in an uniform and equable manner.

6. For, if the earth be in the center, and the sun and planets revolve about it, the planets would then, like the comets, be scorched with heat, when nearest the sun, and frozen with cold in their aphelia, or greatest distance, which is not to be supposed.

7. If the sun be placed in the center of the system, we have then the rational hypothesis of the planets being all moved about the sun, by the universal law or power of gravity arising from his vast body, and every thing will answer to the laws of circular motion and central forces; but otherwise, we are wholly in the dark, and know nothing of the laws and operations of nature.

8. But happily we are able to give not only reasons, but demonstrative proofs, that the sun does possess the center of the system, and that the planets move about it at the distance and in the order assigned in this and in other places. See the article DISTANCE.

The first is, that mercury and venus are ever observed to have two conjunctions with the sun, but no opposition, which could not happen unless the orbits of these planets lay within the orbit of the earth.

9. The second is, that mars, jupiter, and saturn, have each their conjunctions and oppositions to the sun alternate and successively, which could not be, unless their orbits were exterior to the orbit of the earth.

10. In the third place, the greatest elongation or distance of mercury from the

sun,

sun, is about 28° , and that of venus 47° ; which answers exactly to their distance in this system, though in the ptolemean system they might, and would, sometimes, be seen 180 from the sun, *viz.* in opposition to him.

11. Fourthly, in this disposition of the planets, they will all of them be sometimes much nearer to the earth than at others; the consequence of which is, that their brightness and splendor, and also their apparent diameters, will be proportionally greater at one time than another; and this we observe to be true every day. Thus the apparent diameter of venus, when greatest, is near $66''$, but when least, not more than $9''$ and a half; of mars, when greatest, it is $21''$, but when least, no more than $2''$ and a half; whereas, by the ptolemean hypothesis, they ought always to be equal.

12. The fifth is, that when the planets are viewed with a good telescope, they appear with different phases, or with different parts of their bodies enlightened. Thus venus is sometimes new, then horned, and afterwards dichotomized, then gibbous, afterwards full, and so increases and decreases her light in the same manner as the moon, and as the copernican system requires.

13. The sixth is, that the planets, all of them, do sometimes appear direct in motion, sometimes retrograde, and at other times stationary. Thus, venus, as she passes from her greatest elongation westward, to her greatest elongation eastward, will appear direct in motion, but retrograde as she passes from the latter to the former; and when she is in those points of greatest distance from the sun, she seems for some time stationary. All which is necessary upon the copernican hypothesis, but cannot happen in any other.

14. The seventh is, that the bodies of mercury and venus, in their lower conjunctions with the sun, are hid behind the sun's body, and in the upper conjunctions are seen to pass over the sun's body, or disk, in form of a black round spot, which is necessary in the copernican system, but impossible in the ptolemean system.

15. The eighth, and last, is, that the times in which these conjunctions, oppositions, stations, and retrogradations of the planets happen, are not such as they would be were the earth at rest in its orbit, but precisely such as would happen were the

earth to move, and all the planets in the periods assigned them; and therefore this, and no other, can be the true system of the world.

COPERNICUS, the name of an astronomical instrument, invented by Mr. Whiston, to exhibit the motion and phenomena of the planets, both primary and secondary. It is built upon the copernican system, and for that reason called by this name. It consists of several concentric circles of wood, upon which are inscribed numbers, transferred hither from the astronomical tables, by the various dispositions of these circles, which are made so as to slide within each other, by which questions are solved so as to save long calculations. To exhibit eclipses there is a particular apparatus, consisting of a terrestrial globe, so disposed, as that, being turned round its axis, the light of the sun, or a candle projected through a glass plane, marked out into concentric circles, expresses the digits of the eclipse: and thus is the path of the eclipse, with its degree or quantity in any part of the path, represented with great accuracy. The inventor of this instrument has wrote a treatise purposely to explain it.

COPHTS, COPHTI, or COPTS, a name given to such of the christians of Egypt, as are of the sect of jacobites.

The cophts have a patriarch, who is styled the patriarch of Alexandria, having eleven or twelve bishops under him, but no archbishop. The rest of the clergy, whether secular or regular, are of the order of St. Antony, St. Paul, and St. Macarius, each of whom have their monasteries. The cophts have seven sacraments, *viz.* baptism, the eucharist, confirmation, ordination, faith, fasting, and prayer. They deny the holy ghost to proceed from the son; they only allow of three oecumenical councils, that of Nice, Constantinople and Ephesus. They only allow of one nature, will, and operation in Jesus Christ, after the union of the humanity with the divinity. With regard to their discipline, they circumcise their children before baptism; they ordain deacons at five years of age; they allow of marriage in the second degree, and put away their wives, and espouse others, while the first are living; they forbear to eat blood, and believe in a baptism by fire, which, according to some, they confer by applying a red hot iron to their cheeks or forehead.

COPHTIC, or **COPTIC LANGUAGE**, is that spoke by the Cophts, being the antient language of the Egyptians, intermixed with the greek, and the characters of it being those of the greek.

The antient coptic is now a dead language, to be met with no where but in books, and those only translations of the scriptures, and of ecclesiastical offices, or others that have a relation thereto; the language now used over all the country being that of the arabic.

COPHTIC MONKS, religious, among the christians of Egypt, who have the highest veneration for a monastic life, considering it as the philosophy of the law of Jesus Christ, the monks as terrestrial angels, or celestial men. They are obliged to part with their possessions, to renounce marriage for ever, to live in deserts, to be clothed in wool, and to eat no meat.

COPIA *libelli deliberanda*, a writ that lies where a person cannot get the copy of a libel from a judge of the spiritual court.

COPIAPO, a port-town of Chili, in South America, situated on the Pacific ocean at the mouth of a river of the same name, in 75° west long. and 25° south lat.

COPIATA, a man of a particular order in the primitive church, whose business it was to bury the dead, by preparing the graves, wrapping up the dead bodies, &c. being accounted a work of piety, wherefore the copiatæ were considered as having a relation to the clergy.

COPING, or **COPPING** of a wall, in architecture, the top or covert of a wall, made sloping, to carry off the wet.

COPING over, in carpentry, a sort of hanging over, not square to its upright, but bevelling on its under side, till it end in an edge.

COPIVI, or *balsam of COPIVI*. See the article **BALSAM**.

COPPEL, **COPEL**, or **CUPPEL**, a chemical vessel made of earth, pretty thick, and of the form of a platter or dish. See plate **LIII**. fig. 3.

It sustains the highest degree of fire, and retains all fused metals: but in it all the fusible portions of any metal, when mixed with fused lead, are carried off, except gold and silver, which are left behind in small globules. See **ASSAYING**.

This vessel has a small cavity, which is a kind of obtuse, spherical segment, with a canal at its margin, through which the metal examined may be the more commodiously poured out. The external surface of the coppel is somewhat like a

truncated cone, that it may stand the more securely. It may be made of different bulks, according to the quantity of metal to be tried; and may be made either of some proper earth, or of ashes obtained from the calcined bones almost of any animals, except those of hogs; for the coppels made of these, besides lead and other fossils, also absorb some parts of gold and silver. The ashes of calcined plants are also proper for this purpose, provided their salts are well washed out of them. Plaster also of some kinds, Cramer thinks preferable to any other materials for this purpose: the smaller bones of calves, oxen, sheep and horses are most commonly used, and these are the more easily calcined the longer they have been exposed to the injury of the weather. A small quantity of the ashes of these bones, after being calcined to the highest degree of whiteness, is to be triturated in a mortar, then put into an earthen vessel, and a second time calcined in a strong fire, for some hours: afterwards the ashes must be washed with water, and levigated to a fine powder, which, when moistened by water and the white of an egg, till the mass coheres, is to be excavated with a pestil; then a solution of the powder of vitriol may be sprinkled over the surface, and the coppel laid by in a dry place, after the inequalities, protuberating on the upper margins and the bottoms are cut off with a sharp knife.

COPPELLING, or **CUPELLING**, in chemistry, is the putting metallic substances into a coppel, or covered vessel, made of bone-ashes, and set in a naked fire, to try what gold or silver they will afford. See the article **ASSAYING**.

COPPER, *cuprum*, constitutes a distinct genus of metals, being next to iron in specific gravity, but lighter than gold, silver, or lead.

Copper is not unfrequently found native and malleable, sometimes in small and slender fibres, and sometimes in little globular and irregular masses. However it is most frequently found in the state of ore, sometimes blended with the strata of stones, where it discovers itself in blue or green efflorescences. The green and blue ochers also are a sort of ores of copper, and the pyritæ and marcasites frequently contain large quantities of this metal. There is also a rich kind of copper-ore, of a reddish-grey colour; and another of a dusky purple, or blackish

co'our. But besides all these, there are two other appearances of copper-ore, known by the names of lapis lazuli, and the turcois, or turquois. See the article LAZULI, &c.

In Germany and Sweden there are very good mines of copper-ore, and we have some in England little inferior to the finest Swedish ones.

In order to discover whether the pyrites contains any copper, let it be roasted in an open fire, and a solution made by pouring upon it a quantity of warm water: into this solution let iron plates, perfectly clean and free from grease, be immersed; and if the pyrites contains any copper, it will stick to these iron plates, in form of a fine yellow powder.

As to the method of obtaining copper from the ore, this last being previously washed and powdered, is smelted by means of a black flux, and the metal is found at the bottom of the vessel when cold, in the form of a solid and malleable mass; which may be farther refined, by repeating the operation.

Physicians condemn the internal use of copper in any form; all its preparations being accounted poisonous. However, as it is a very strong emetic, in cases of poison, where vomits are highly necessary to throw it up again, nothing is more efficacious: for it frequently happens that even foods, by standing long in copper vessels, acquire an emetic quality, which has very bad effects; in which case milk, oil, and butter are accounted good antidotes.

Preparations of COPPER, are, 1. Flowers of copper, *floris aris*, said to be a medicine much used externally amongst the ancients, but now disregarded; and it is prepared by melting a quantity of common, pure copper, and throwing water upon it, just as it begins to cool, which makes the whole mass of the metal break into small granules, called *flores aris*.

2. Verdigrease, *argus aris*. 3. Calcined copper, or *as ustum*. 4. Flakes, or scales of copper, *squame aris*, being a preparation of much the same nature with calcined copper. 5. The blue ewer-water, *aqua sapphirina*. And, 6. Mr. Boyle's *ens veneris*: each of which articles see under their several heads.

COPPERAS, a name given to the factitious green vitriol. See VITRIOL.

The english copperas is made at Deptford, in the following manner, from pyrites. See the article PYRITES.

A heap of these stones, two or three feet thick, is laid in a bed well rammed, where being turned once in six months, in five or six years, by the action of the air and rain, they begin to dissolve, and yield a liquor which is received in pits, and thence conveyed into a cistern, in a boiling house. The liquor at length being pumped out of the cistern into a leaden boiler, and a quantity of iron added thereto, in two or three days the boiling is completed; care having been taken all along to supply it with fresh quantities of iron, and to restore the boiling, whenever it seems to abate. When boiled sufficiently it is drawn off into a cooler, with sticks across, where it is left 14 or 15 days to shoot. The uses of copperas are numerous. It is the chief ingredient in the dying of wool, cloths, and hats, black; in making ink, in tanning and dressing leather, &c. and from hence is prepared oil of vitriol, and a kind of Spanish brown for painters. In medicine, it is rarely prescribed under the name of copperas, but it is a true salt of iron, and often prescribed under that name, and used instead of the genuine preparation; our chemists in general giving themselves no further trouble about the making of that salt, than to dissolve and purify the common copperas, and shoot it again into crystals. It is a noble deobstruent, and is a great medicine in the suppression of the menses, but should be used with caution. In large doses it proves emetic, and, in small, is found a good remedy against worms.

COPPICE, or **COPSE**, a little wood consisting of under woods, or such as may be raised either by sowing or planting.

When they are intended to be raised from mast or seed, the ground is ploughed, in the same manner as it is for corn; and either in autumn or in spring, good store of such masts, nuts, seeds, berries, &c. are to be sown with the grass, which crop is to be cut, and then the land laid for wood. They may also be planted about autumn, with young sets, or plants, in rows about ten or fifteen feet distance. If the coppes happen to grow thin, the best way of thickening them is to lay some of the branches or layers of the trees, that lye nearest to the bare places, on the ground, or a little in the ground: this detained with a hook or two, and covered with fresh mould, at a competent depth, will produce a world of suckers, and thicken a copse speedily.

COPULA,

COPULA, in logic, the verb that connects any two terms in an affirmative or negative; as *riches make a man happy*; where *make* is the copula: *no weakness is any virtue*; where *is* is the copula.

COPULATION, the act of generation, or the congress of the male and female, otherwise called coition. See the articles **COITION** and **GENERATION**.

COPULATIVE PROPOSITIONS, in logic, those where the subject and predicate are so linked together, by copulative conjunctions, that they may be all severally affirmed or denied one of another. Example, *Riches and honours are apt to elate the mind, and increase the number of our desires*.

COPULATIVE CONJUNCTION. See the article **CONJUNCTION**.

COPY, in a law sense, signifies the transcript of any original writing, as the copy of a patent, charter, deed, &c.

A common deed cannot be proved by a copy or counterpart, where the original may be procured. But if the deed be inrolled, certifying an attested copy, is proof of the inrollment, and such copy may be given in evidence.

COPY is also used for the imitation of an original work, more particularly in painting, draught, figure, &c.

COPY, among printers, denotes the manuscript, or original of a book, given to be printed.

COPY-HOLD, a tenure for which a tenant has nothing to shew but the copy of the rolls made by the steward of the lord's court.

It is called a base tenure, because the tenant holds the land at the will of the lord. However it is not simply at the will of the lord, but according to the custom of the manor by which such estate is descendible, and the tenants heirs may inherit it; and a copy-holder, so long as he does his services, and does not break the custom, cannot be ejected by the lord; and if he be, he shall have trespass against him.

Some copyholds the tenants hold by the verge in antient demesne; and tho' held by copy, yet they are a kind of freehold: and other copyholds are such as tenants hold by common tenure, called mere copyhold.

If a person would devise a copyhold estate, he cannot do it by his will, but he must surrender to the use of his last will and testament, and in his will declare his intent; and here the lands do not

pass by the will, but by the surrender thus made.

Copyhold inheritances have no collateral qualities, which do not concern the descent, as to make them assets to bind the heir, or whereof the wife may be endowed, &c. They are not extendible in execution, but are within the acts against bankrupts, and the statutes of limitation.

COPY-HOLDER, one who is admitted tenant of lands or tenements within a manor, which, time out of mind, by use and custom of the manor, have been demisable and demised to such as will take them in fee-simple, or fee-tale, for life, years, or at will, according to the custom of the manor by copy of court-roll. But is generally where the tenant has such estate either in fee or for three lives.

COQ. AD MED. CONSUMPT. among physicians, is an abbreviation for *coque ad medietatis consumptionem*, i. e. Boil it till half of it be consumed.

COQ. IN S. Q. AQ. *coque in sufficiente quantitate aque*, i. e. Boil in a sufficient quantity of water.

COQ. S. A. *coque secundum artem*, i. e. Boil according to art.

COQUIMBO, a port-town of Chili, in South America, situated at the mouth of a river of the same name, which discharges itself into the Pacific ocean: west long. 75° 10', and south lat. 30°.

COR, the **HEART**, in anatomy. See **HEART**.

COR CAROLI, in astronomy, an extra-constellated star in the northern hemisphere, situated between the coma berenices, and ura major, so called by Dr. Halley in honour of king Charles.

COR HYDRÆ, a fixed star of the first magnitude, in the constellation of hydra. See the article **HYDRA**.

COR LEONIS, or **REGULUS**, in astronomy, a fixed star of the first magnitude, in the constellation leo. See **LEO**.

COR VENERIS, the name of a beautiful kind of heart-shells, called also *cor bovis*. See the article **CARDIA**.

CORACOBRACHIALIS, in anatomy, a muscle that has its origin at the coracoid process of the scapula, and its termination about the middle part of the arm. It serves to lift the arm obliquely outwards.

CORACOHYOIDÆUS, in anatomy, a muscle which having its origin from the upper edge of the scapula, near its neck, ascends obliquely under the mastoidæus, and is inserted in the os hyoides, which it serves to pull obliquely downwards. See the article **HYOIDES**.

CORA-

CORACOIDES, in anatomy, a small sharp process of the scapula, so called from its resembling a crow's bill.

The coracoid process in infants, is but a cartilage, afterwards it becomes an epiphysis; and, after this, about the age of sixteen, it is perceived to be a separate bone. It serves to strengthen the articulation of the shoulder, and gives origin to one of the muscles of the arm.

CORACOMANTES, in antiquity, persons who foretold events from their observations on crows.

CORAL, in natural history, a production of the sea, usually marked among the number of marine plants. See plate LI. fig. 2.

It has been doubted by some authors of great credit, whether coral were properly a plant or not: some, with Dr. Woodward, make it a fossil production, formed as crystals and spars are: others refer it to the animal tribe, of which opinion many of the french naturalists are at present. But as it is found to grow and to take its nourishment in the manner of plants, and to produce flowers and seeds, or at least a matter analogous to seeds, there requires no farther argument to prove that it truly and properly is of the vegetable kind. Boccone discovered its nutritious juice lodged in cells under the bark or rind, and count Marfigli, the flowers and seeds.

The coral plant, called corallum by Tournefort, and isis by Linnæus, and ranked by this last author among the *cryptogamia lithophytorum*, is of the same hardness and stony nature throughout, and that as well while growing under the water, as when it has been ever so long exposed to the air. All that has given occasion to the vulgar opinion of coral's being soft while in the sea, is that it has a soft and thin coat of a crustaceous matter, covering it while it is growing, and which is taken off before it is packed up for use. It grows to stones, or any other solid substances, without a root, or without any way penetrating them as plants do the earth; and not only to rocks and stones, but to shells, old iron instruments, broken glass, earthen vessels, and even to the bones of men lying at the bottom of the sea; all these having been found with regular and fine plants of red coral growing from them. The red coral is met with in apothecaries shops in small branched pieces of the thickness of a packthread, of a pale red

colour, and usually striated longitudinally on the surface. These are the small branches of the plant, the larger and finer pieces being used for beads and other toys, where a larger price is paid for them. Medical authors give us receipts for a great many preparations of coral, as magisteries, tinctures, syrups and salts. At present, however, they are disused, and we know it in the shops in no other form but that of the powder finely levigated, which is prescribed as an astringent and absorbent in diarrhoeas, the fluor albus, &c. with other medicines of the same intention. We hear also of a white coral, and many suppose it to possess greater virtues than the red; but what we meet with in the shops under this name, is a species of another sea-plant, the madrepora. See the article MADREPORA.

There is a black coral, of the same stony substance with the red, and as glossy as the blackest marble; but we see no such thing in the shops: what is kept under this name, is a plant of a quite different genus, not of a stony but a tough and horny texture, and is the lithophyton described by authors under the name of lithophyton nigrum arboreum, and corallum nigrum officinarum. See the article CORALLINE.

CORAL fishery. Red coral is found in the Mediterranean, on the shores of Provence, from cape de la Couronne to that of St. Tropez; about the isles of Majorca and Minorca; on the south of Sicily; on the coasts of Africa; and, lastly, in the Ethiopic ocean, about cape Negro. The divers say, that the little branches are found only in the caverns whose situation is parallel to the earth's surface, and open to the south. The manner of fishing being nearly the same wherever coral is found, it will suffice to instance the method used at the bastion of France, under the direction of the company established at Marseilles for that fishery. Seven or eight men go in a boat commanded by the patron or proprietor, and when the net is thrown by the calter, the rest work the vessel, and help to draw the net in. The net is composed of two rafters of wood tied cross-wise, with leads fixed to them: to these they fasten a quantity of hemp twisted loosely round, and intermingled with some large netting. This instrument is let down where they think there is coral, and pulled up again when the coral is strongly intangled in the hemp and netting. For this purpose,



pose, six boats are sometimes required; and if in hauling in, the rope happens to break, the fishermen run the hazard of being lost. Before the fishers go to sea, they agree for the price of the coral, which is sometimes more, sometimes less a pound; and they engage, on pain of corporal punishment, that neither they nor the crew shall embezzle any, but deliver the whole to the proprietors. When the fishery is ended, which amounts one year with another to twenty-five quintals for each boat, it is divided into thirteen parts, of which the proprietor hath four, the cafter two, and the other six men one each, the thirteenth belongs to the company for payment of the boat furnished them. Red or white coral in fragments, for physic, pays on importation 7 $\frac{7}{10}$ d. the pound, and draws back on exportation 6 $\frac{8}{10}$ d. Whole coral unpolished, the pound, pays 3 s. 10 $\frac{5}{10}$ d. and draws back 3 s. 4 $\frac{8}{10}$ d. Whole coral polished, the pound, pays 5 s. 1 $\frac{5}{10}$ d. and draws back 4 s. 7 $\frac{8}{10}$ d.

Artificial CORAL, is made of cinnabar well beaten; a layer whereof is applied on a piece of wood well dried and polished, being first moistened with size: the whole is then again polished, and for varnish rub it over with the white of an egg.

CORAL-TREE, or *CORAL-WOOD*, erythrina, in botany. See *ERYTHRINA*.

CORALLINE, *corallina*, in botany, is a genus of submarine plants, consisting of stalks and branches often beautifully ramified, and composed of joints of an oblong figure inserted into one another. The greater part of these are gritty and of a coral-like matter, but nature varies from this in some of the species, which are of a softer substance. See plate LI. fig. 3.

It is frequent on our own coasts, and what we use is in general of our own produce, though there is some of it brought from France and Holland. It is to be chosen fresh, of a strong smell, and greenish or reddish colour. The antients extol much the virtues of coralline; at present, however, we use it only against worms, and it is generally mixed with worm-feed, salt of steel, and other of the known anthelmintics.

Mr. Ellis, in an Essay towards a natural history of corallines, and other marine productions of the like kind, published in 1753, endeavours to prove that these sea substances are only cases or coverings for marine polypes. See *POLYPE*.

He tells us that he had an opportunity, on the island of Sheppey, of seeing those disputed beings, called branched corallines, alive in sea-water, by the help of a very commodious microscope, and was fully convinced that these apparent plants were ramified animals in their proper skins or cases, not loco-motive, but fixed to shells of oysters, muscles, &c. and to fucus's. He had afterwards an opportunity of seeing those corallines in motion, whose polypes are contained in cups, supported by a long stem that appears full of rings, or as if they were twisted in form of a screw.

CORALLUM, *CORAL*, in botany. See the article *CORAL*.

CORAM NON JUDICE, in law, is a term used where a cause is brought and determined in a court of which the judges there have not any jurisdiction.

CORAN, or *ALCORAN*. See the article *ALCORAN*.

CORBAN, a scripture term for an offering which had life, in opposition to that which had no life.

CORBAN is also a ceremony which the mahometans perform at the foot of mount Ararat, in Arabia, near Mecca. It consists in killing a great number of sheep, and distributing them among the poor.

CORBEILS, in fortification, the same with what we call baskets. See *BASKET*.

CORBEL, in architecture, the representation of a basket, sometimes seen on the heads of the coryatides.

It is sometimes used to signify the vase of a tambour of the corinthian column.

CORBEL, or *CORBEIL*, is also used in building, for a short piece of timber, placed in a wall, with its end sticking out six or eight inches, as occasion serves, in the manner of a shouldering piece. The under part of the end thus sticking out, is sometimes cut in the form of a boudin, sometimes of an ogee, and sometimes of a face, &c. according as the workman fancies.

CORBY, a town of Germany, thirty miles east of Paderborn, in Westphalia: east long. 9° 20', north lat. 51° 40'.

CORCHORUS, *JEWS-SALLAD*, in botany, a genus of the polyandria-monogynia class of plants; the corolla of which consists of five oblong, obtuse petals; narrowest at the bottom, erect, and of the length of the cup: the fruit is a very large, cylindric, acuminate pod, composed of five valves, sometimes only of two, and contains five cells: the seeds are numerous, angular, and acuminate.

CORD;

CORD, or **CHORD**, several threads, cabled or twisted together, by means of a wheel. See the article **ROPE**.

CORD of St. Francis, a sort of rope, adorned with knots, wore by the brothers of the fraternity of St. Francis.

The cordeliers, capuchins, minorites, and rocolets, wear a white rope: but others, as the pique-puces, wear it black. The design of it is to commemorate the bands wherewith Christ was bound.

The society of the cord includes a great number of people besides religious. To obtain indulgences they are only obliged to say five Paters, five Ave Mary's, and five Gloria-patri's, and to wear this rope, which must first have been blessed by the superiors of the order.

CORD of wood, a certain quantity of wood for burning, so called because formerly measured with a cord. The dimensions of a statute cord of wood are eight feet long, four feet high, and four feet broad.

CORD-WOOD, new wood, and such, as when brought by water, comes on board a vessel, in opposition to that which is floated.

CORDAGE, a term used, in general, for all sorts of cord, whether small, middling, or great, made use of in the rigging of ships. See the article **RIGGING**. Cordage, cable-laid, as the seamen term it, is made with nine strands, *i. e.* the first three strands are laid slack, and then three of them, being closed together, make a cable, or cablet. See **CABLE**.

The same for racks, but they are laid tapering.

Cordage, hawser-laid, is made only with three strands.

Cordage-stays, are cable-laid, but made with four strands, as cables are with three; with the addition of an heart, which goes through the center of them.

The price of cordage and cable at Peterburgh, in 1742, was one rouble, twenty copecks the poud.

Cordage staped, is that which, having been put in a tub in a very warm place, has cast out its moisture.

White cordage, is that which has not yet been tarred.

Cordage tarred in spinning, is that which is made of rope yarn ready tarred.

Cordage tarred in the stove, is that which has passed through hot tar, in coming out of the stove. Every quintal of cordage may take about twenty pounds of tar.

Cordage re-made, is that which is made of ropes used before.

Cordage, when very old, is used for oakum to chaulk the seams of ships. See the article **OAKUM**.

Change cordage, that which is kept in reserve, in case what is in use fails.

When a rope is said to be six inches, it is understood of its circumference. A rope of sixty threads, is one composed of so many rope yarns.

Cordage is usually made of spun hemp: the great number of vessels built and fitted out at Amsterdam, either for war or trade, occasion a great commerce of all sorts of cordage necessary for them, all which sells by the schippont of three hundred pounds. The schippont of cordage of neat hemp costs usually fifty-six florins; that of Muscovy, from thirty to forty-seven. Deductions for weight and prompt payment are one *per cent.* on each.

The quantity of cordage used in rigging a vessel, is almost inconceivable. Every rope hath its name and particular use. As the quantity of cordage is so very extraordinary that is used in our own vessels and shipping, both at home and abroad, and as also the quantities used by all the Europeans, Americans, and Asiatics, is immensely great, too much encouragement cannot be given to the growth of hemp in our own colonies and plantations, to the end that we might, by that means, at least, amply supply ourselves, if we could not obtain any share in the supply of other nations.

CORDATED, an appellation frequently given by naturalists to things somewhat resembling a heart.

CORDED, in heraldry. A cross-corded some authors take for a cross wound or wrenched about with cords. See the article **CABLED**.

Others, with more probability, take it for a cross made of two pieces of cord.

CORDELERAS, mountains of South America, otherwise called Andes. See the article **ANDES**.

CORDELIER, in church-history, a franciscan or religious of the order of St. Francis. See the article **CORP**.

The cordeliers are enjoined to live in common: those who are admitted into the order, are first to sell all they have and give it to the poor. The priests are to fast from the feast of all saints till the nativity.

CORDIA, **SEBESTEN**, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which is formed of a single petal, of an infundibuliform shape:

shape: the fruit is a dry, globose, acuminate drupe, covered with the cup: the seed is a sulcated nut, containing two cells. The fruit of the sebsten is an attenuant and resolvent, and has been frequently given in peripneumonies, in diseases of the breast and lungs in general, and in stranguries and hoarsenesses, but now it is much grown out of use.

CORDIAL, in medicine, whatever raises the spirits, and gives them a sudden strength and cheerfulness.

In order to understand the operation of this upon a human body, it is necessary to consider that a languor, or faintness, must either by the consequence of too much exercise, too long watching, or too great a hurry of the animal functions, as in some distempers; all which do so far dissipate the nervous fluid, or animal spirits, as that the solids cannot repeat, with wonted vigor, their necessary motions: or such depressions must arise from the obstruction of some natural evacuation, and generally that of perspiration; from external cold, which lays a load upon the constitution. In both these cases the manner in which a cordial acts is the same, since it must produce its effects by adding to the springiness and force of the fibres; and as this change is most remarkable from spirituous liquors, it may be of use to examine how they come to obtain such a denomination; and this must arise from their subtilty and fineness of parts; so that the more spirituous any thing is that enters the stomach, the sooner one feels its cordial effects: for that increase of vigour which a man obtains from common food, though the most natural and durable, is not immediately obtained in such a degree, as to get the appellation of cordial, since it must pass through several comminutions before it arrive to such a fineness as to be dispersed to the nerves; whereas a spirituous substance enters into the nerves as soon as it touches them, whereby their vibrations are invigorated, and all sense of faintness removed. In like manner volatiles, the effluvia of flowers, fruits, and all things deemed cordials, operate upon the organs of smelling.

CORDIS CAPSULA, **FOVEA**, **MUCRO**, **SEPTUM**, &c. See the articles **HEART**, **CAPSULA**, **FOVEA**, **MUCRO**, &c.

CORDON, in fortification, a row of stones, made round on the outside, and set be-

tween the wall of the fortress, which lies aslope, and the parapet which stands perpendicular, after such a manner, that this difference may not be offensive to the eye: whence the cordons serve only as an ornament, ranging round about the place, being only used in fortification of stone-work. For in those made with earth, the void space is filled up with pointed stakes.

CORDOUA, or **CORDOVA**, a city of Andalusia, in Spain, situated on the river Guadalquivir, seventy-two miles north-east of Seville, and seventy-five north of Malaga: west longitude $4^{\circ} 45'$, and north latitude $37^{\circ} 45'$.

It is a large city, said to contain 14,000 families, and has a good trade in wine, silk, and leather: it is likewise a bishop's see.

CORDOUAN TOWER, a remarkable high house at the mouth of the river Garonne, in France: west long. $1^{\circ} 15'$, and north lat. $45^{\circ} 35'$.

CORDWAINERS, a term whereby shoemakers are denominated in statutes. By a statute of Jac. I. the master and wardens of the cordwainers company, &c. are to appoint searchers and triers of leather; and no leather is to be sold, before searched, sealed, &c.

COREA, an island or peninsula on the north-east coast of China, between 36° and 42° of north latitude.

CORED HERRINGS, those caught in autumn on the coast near Yarmouth; which, being rolled in salt, are afterwards brought on shore to be made red-herrings.

COREGONUS, in ichthyology, a genus of malacopterygicus fishes, with eight or ten ossicles or little bones in the branchiostege membrane, and extremely small teeth. Under this genus are comprehended the lavaretus, albula-minor, thymallus, coregonoides, and wimba.

COREIA, in antiquity, a festival in honour of Proserpine.

COREOPSIS, in botany, a genus of the syngenesia-polygamia-frustranea class of plants, the compound flower of which is radiated, and consists both of hermaphrodite and female ones; the former are numerous, situated on the disk, and tubulose; and the latter ligulated, and only eight in number: add to this, that the former are divided into five, and the latter only into four segments at the limb: the stamina are five very short, capillary

filaments; and the seeds are solitary, orbiculated, and contained in the cup.

CORFE-CASTLE, a borough-town of Dorsetshire, about twelve miles east of Dorchester, near the sea: west long. $2^{\circ} 10'$, and north lat. $50^{\circ} 36'$.

It sends two members to parliament.

CORFU, an island subject to the Venetians, situated in the Mediterranean, near the entrance of the gulph of Venice.

CORFU is also the capital of the above island: east long. $20^{\circ} 40'$, and north lat. $39^{\circ} 40'$.

CORIA, a city of Estremadura, in Spain, thirty-five miles north of Alcantara: west long. $6^{\circ} 40'$, and north lat. $39^{\circ} 55'$.

It is a bishop's see.

CORIANDEr, *coriandrum*, in botany, a genus of the pentandria-digynia class of plants, the general corolla of which is difform and radiated; the proper flowers of the disk are hermaphrodites, and composed of five unequal, inflexo-cordated petals: the stamina are five simple filaments; and the fruit is a spherical, striated berry, containing two hemispherical seeds.

Coriander-seeds are accounted stomachic and good in flatulencies, and head-aches occasioned thereby: they are also said to disperse strumæ, and stop hæmorrhages and fluxes.

CORIARIA, **MYRTLE-SUMACH**, in botany, a genus of the decandria-pentagynia of Linnæus, whose corolla consists of five petals, very like the cup. It has no pericarpium: the seeds are five, kidney-shaped, and inclosed in the petals.

CORIDOR, or **CORRIDOR**, in fortification, the same with covert-way. See the article **COVERT-WAY**.

CORINTH, a city of european Turkey, situated near the isthmus into the Moræa, about fifty miles west of Athens, in 23° east long. and $37^{\circ} 30'$ north lat.

CORINTHIAN, in general, denotes something belonging to Corinth: thus we say, corinthian order, corinthian brass, &c.

CORINTHIAN ORDER, in architecture, the fourth order of architecture, according to Scamozzi; but Mr. Le Clerc makes it the fifth, being the most noble, rich and delicate of all the five. See plate LII.

Most authors ascribe the invention of this order to Callimachus, a corinthian sculptor. Vilalpandus, however, opposes this opinion, and will have the corinthian capital to have been derived from an order in Solomon's temple, the leaves whereof

were those of the palm-tree. The corinthian order has several characters by which it is distinguished from the rest. Its capital is adorned with two rows of leaves, between which arise little stalks, or caulicoles, of which the volutes are formed, which support the abacus, and are sixteen in number. See **ABACUS**.

It has no oval, nor even abacus, properly speaking; for the member which goes by that name, is quite different from the abacus of the other orders, being cut with a sweep, in the middle of which is carved a rose, or other ornament. See **ARCHITECTURE** and **ORDER**.

Vitruvius observes, that the corinthian order has no particular ordonnance for its cornice, or any of the other ornaments of its entablature; nor does he give it any other proportions than those of the ionic order: so that if it appears higher than the ionic, it is purely owing to the excess of the height of its capital. See the article **IONIC** and **CAPITAL**.

He also makes the rest of the entablature the same; and likewise uses the attic base indifferently for the one and the other. But Vitruvius differs widely in this order from all the examples of antiquity now remaining, the most beautiful of which have a particular base, and the whole order twenty modules high, whereas the ionic has but eighteen.

Again, its capital is higher than that of Vitruvius, by one third of a module; and its entablature, which has modillions and sometimes dentils together with the modillions, is very different from the ionic entablature.

Most modern architects pass by Vitruvius's corinthian order, and follow that of the antient buildings; and select from them, according to their several tastes; so that the modern corinthian is a kind of composite, differing from many of the antient buildings, and much more from Vitruvius. Vignola and Mr. Le Clerc made the corinthian order twenty modules in height, yet Serlio makes it but eighteen; and M. Perrault eighteen two thirds, retrenching something from the nineteen of Vitruvius. M. Perrault makes the height of the shaft less than that of the ionic, by reason of the excess of its capital.

The CORINTHIAN column by equal parts.

The corinthian pedestal, being in height three diameters, is divided into four, allowing one to the base, whose plinth is

CORINTHIAN ORDER.

Origin of the Capital.

a being the Abacus.

b the Acanthus.

c the Vase.



Corniche

Frieze

Architrave

Capital

Shaft

Base

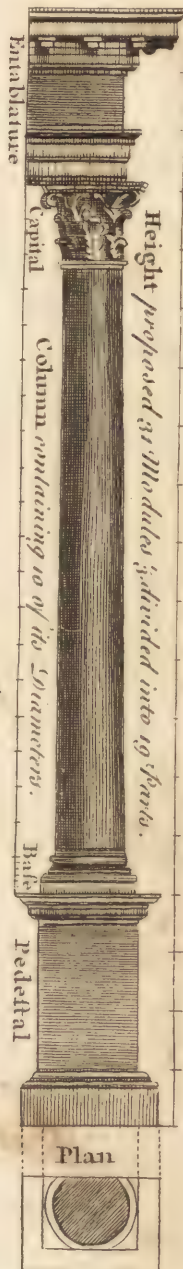
Corniche

Dye

Base



Order intire.



Height proposed as 10 modules divided into 19 parts.

Plan



two thirds of it ; the other part is divided into nine, allowing two and a half to the torus, a half part to the fillet, three to the cimatum, a half part to the fillet, and two and a half to the ogee ; and the breadth of the dye is a diameter, and two thirds.

The height of the base of the column is half a diameter, which is divided into six, allowing three fourths to the plinth, one to the lower torus, one fourth to the fillet, a half part to the scotia, one to the astragals and fillets, a half part to the scotia, one fourth to the fillet, and the other three fourths to the torus.

For the corinthian capital, divide the diameter into six parts, and take seven such parts for the height, allowing two to each height of the leaves, whose heads turn down half a part of it ; allow another part for the stalks, whose heads turn down one third of it ; three fourths to the small volutes, and one fourth to the fillet ; the large volute is as high as the said fillet ; a half part to the hollow, and a half part to the ovolo, whose fillet has one third of it.

The architrave is divided into nine parts, allowing one and a half to the first face, one and one fourth to the small bead, two to the second face, three fourths to the small ogee, two and a half to the third face, a half part to the bead, one to the ogee, and a half part to the fillet. The height of the entablature is two diameters, and is divided into six parts, two of which go to the architrave, one and a half to the frieze, and two and a half to the cornice.

The cornice is divided into twelve parts, allowing one and one fourth to the ogee, one fourth to the fillet, one and one fourth to the dentils, one fourth to the fillet, one fourth to the ovolo, one fourth to the fillet, two to the modillions, a half part to the ogee, and one fourth to the fillet ; one and three fourths to the corona, three fourths to the cima reversa, one fourth to the fillet, one and a half to the cima recta, and a half part to the fillet.

The projection of the base of the corinthian pedestal is equal to its height ; the upper fillet has three of these parts, and the lower fillet seven : the height of its cornice is half the base, being one eighth of the whole height ; and is divided into eleven, by allowing one and a half to the ogee, a half part to the fillet, three to the

cimatum, three to the corona, two to the ogee, and one to the fillet. The projection of the fillet has two of these parts ; the bimatum, four and a half ; the corona, six and a half ; and the whole eight and a half.

The projection of the base of the column is one fifth of the diameter ; and the upper fillet has one of these six parts ; the upper torus, and the lesser fillets have one and a half ; and one and three fourths are allowed to the astragals and lower fillet.

For the projection of the capital, make a square, each side being a diameter and half, and draw diagonals ; and towards each angle, mark a diameter from the center, and draw the cants at right angles with the said diagonals. Then from the curvature of the abacus, make an equilateral triangle (the part of the square cut off by the cants being the base) and the opposite angle the center. In the circumference of the column are eight leaves, each leaf having four plants, and each plant five raffles. The projection of their head is found by a straight line from the abacus to the colarino. The rose is as high as the volute, and projects to the side of the foresaid square.

In the projection of the architrave ; the second face has one fourth of a part ; the third face, one of those parts ; and the whole, two.

As for the projections of the cornice, the ogee is one half of these parts, and the dentils two and a half ; the dentils are in breadth two thirds of their height, and the spaces two thirds of their breadth. The modillions project three and three fourths, and its breadth is one fifth of the diameter, and one being in the center gives the spaces. The returned modillions, eight and a half ; the cap, nine ; the corona, nine and a half ; the cima reversa, ten and a half ; and the whole, twelve, being equal to the height. See the figure.

CORINTHIAN BRASS. See BRASS.

CORIS, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which consists of a single petal of the ringent kind ; the tube is cylindric, and of the length of the cup ; the limb is plane, and divided into five oblong, obtuse, emarginated segments ; the two upper ones short, and more distant from one another ; the fruit is a globose capsule, formed of five valves, and furnished

ated in the bottom of the cup; the seeds are small, numerous, and oval. See plate LI. fig. 4.

CORISPERMUM, in botany, a genus of the monandria-digynia class of plants, whose corolla consists of two compressed, crooked, pointed petals, equal in size, and placed opposite one another: its fruit is a roundish capsule, compressed, bilocular, and having a furrowed edge; the seeds are of an oblong figure, and stand single.

CORK, or **CORK-TREE**, *suber*, in botany, makes a distinct genus of trees according to Tournefort, but is comprehended under *quercus* by Linnæus. See the article **QUERCUS**.

In order to peel off the bark, which is the only part that constitutes the substance known by the name of cork, they make an incision round both the top and root of the tree, and another longitudinally; and when it is thus got off, they unwarps it before the fire, and press it even with weights. This they do once in two or three years, without any prejudice to the tree; provided, however, it be done in a dry season, as rainy weather is accounted extremely prejudicial.

The cork should be chosen in fine boards, all of a piece, not full of knots or chinks, of a moderate thickness, yellowish without and within, and that which cuts even.

Its use is too well known to need any account of it: in medicine it is of service to stop bleeding, being reduced to powder, or put into some astringent liquor: burned and mixed with the unguentum populneum, it is very proper for the piles. The Spaniards burn cork into an extraordinary fine black, called spanish black, which is used for several sorts of work.

CORK, or **CORKING** of a saddle, the pieces to which the bolsters are made fast; so called as having formerly been made of cork.

CORK, in geography, the capital of a county of the same name, in Ireland, and province of Munster, situated on the river Lee, about fifty miles south of Limerick: west longitude $8^{\circ} 25'$, and north latitude $41^{\circ} 40'$.

It is a port-town, and equals any town in Ireland, except Dublin, in trade; and is a bishop's see.

CORMANDEL-COAST, comprehends the eastern coast of the hither India, bounded by Golconda on the north, the bay of Bengal on the east, Madura on

the south, and Bishnagar on the west: it lies between 10° and 20° north lat.

CORMORANT, in ornithology, the english name of a species of pelican, with fourteen long feathers in the tail, and the under part of the body whitish: it is a sea-fowl, almost equal to a goose in size, and feeds on fish. All the writers on birds have described it under the names of *carbo aquaticus*, or *corvus aquaticus*. See plate LI. fig. 3.

CORN, in country affairs, the grain or seeds of plants, separated from the spica, or ear, and used for making bread.

There are several species of corn, such as wheat, rye and barley, millet and rice, oats, maize and lentils, pease, and a number of other kinds, each of which has its usefulness and propriety. See the articles, **WHEAT**, **RYE**, **BARLEY**, &c.

Corn is very different from fruits, with respect to the manner of its preservation, and is capable of being preserved in public granaries for pressing occasions, and of being kept for several centuries. See the article **GRANARY**.

The first method is to let it remain in the spike; the only expedient for conveying it to the islands and provinces of America. The inhabitants of those countries save it in the ear, and raise it to maturity by that precaution: but this method of preserving it, is attended with several inconveniencies among us; corn is apt to rot or sprout, if any the least moisture is in the heap, the rats likewise infest it, and our want of straw also obliges us to separate the grain from the ear. The second is to turn and winnow it frequently; or to pour it through a trough or mill-hopper, from one floor to another; being thus moved and aired every fifteen days, for the first six months, it will require less labour for the future, if lodged in a dry place: but if, through neglect, mites should be allowed to slide into the heap, they will soon reduce the corn to a heap of dust: this must be avoided by moving the corn anew, and rubbing the places adjacent with oils and herbs, whose strong odour may chase them away; for which garlic and dwarf-elder are very effectual: they may likewise be exposed to the open sun, which immediately kills them. When the corn has been preserved from all impurities for the space of two years, and has exhaled all its fires, it may be kept for fifty or even a hundred years, by lodging it in pits, covered with strong planks, closely joined together: but

but the safer way is to cover the heap with quick-lime, which should be dissolved by sprinkling it over with a small quantity of water; this causes the grains to shoot to the depth of two or three fingers, and incloses them with an incrustation, through which neither air nor insects can penetrate.

Corn not exceeding the under-mentioned prices, shall have the following bounties per quarter, &c.

| | Price per Qr. | | Bounty per Qr. | |
|-----------------|---------------|----|----------------|----|
| | l. | s. | s. | d. |
| Wheat | 2 | 8 | 5 | 0 |
| Rye | 1 | 12 | 3 | 6 |
| Barley and malt | 1 | 4 | 2 | 6 |
| Oatmeal | 0 | 15 | 2 | 6 |

In France, corn of the growth of the kingdom is reckoned a contraband commodity.

CORN-MILL, a water-engine for grinding of corn. See **MILL** and **GRINDING**.

Sharping CORN. See **SHARPING**.

CORN likewise makes the first part of the english name of several plants, on account of their growing among corn: thus we call the *cyamus*, corn-bottle; the *gladiolus*, corn-flag; the *chrysanthemum*, corn-marygold; the *fium*, corn-parsley; the *valerianella*, corn-fallet; the *campanula*, corn-violet, &c. See the articles **CYANUS**, **GLADIOLUS**, &c.

CORN, in medicine and surgery, a hard tubercle like a flat wart, growing in several parts of the feet, especially upon the joints of the toes. This disorder is not unjustly attributed to the wearing of too strait or narrow-toed shoes, which never fail to produce these tubercles, especially if the person is obliged to stand or walk much, and in the summer-time.

Various are the methods used for removing these callosities of the skin and cuticle; some by knife, and others by application of emollient and caustic or eroding medicines; but which way soever they are removed, it is certainly the best to let their hard substance be first sufficiently mollified, and this may be obtained by frequently macerating them for a considerable time in warm water, and afterwards paring off their uppermost surface with a pen-knife: or if this does not suffice, let a plaster of green wax, gum ammoniac. de sapon. &c. or a leaf of house-leek be applied, and renewed every day; when these applications have been continued for some time, peel them away with your nails, or scrape them with a scapel, but with great caution, to avoid injur-

ing any of the subjacent tendons of the extensor muscle, which might occasion violent pains, inflammation, convulsions, a gangrene, and even death; all which have also been frequently the consequences of caustics penetrating to those parts.

CORNACHINE-POWDER, the same with what is sometimes called the earl of Warwick's powder, and pulvis de tribus. This is a purging powder, and made thus: take of scammony, prepared with the fumes of sulphur, two ounces; diaphoretic antimony, one ounce; the crystals of tartar, half an ounce: make them altogether into a powder. It is a smart purge, and frequently given to children, against worms, from five to fifteen grains; and to adults from fifteen grains to half a dram.

CORNAGE, an antient tenure, the service whereof was to blow a horn, when any invasion of the Scots was perceived.

This tenure was very frequent in the northern counties near the Picts wall.

CORNEA TUNICA, in anatomy, the second coat of the eye, so called from its substance, which resembles the horn of a lanthorn, See the article **EYE**.

The cornea is convex, pellucid, and divisible into various lamellæ. It is situated in the fore part of the eye, and surrounded by the iclerotica. It has a most exquisite sense, to the end that the tears, upon the least pain, may be squeezed out of the lachrymal gland, to wash off any filth, which, by sticking to the cornea, might render it dim.

CORNEL-TREE, *cornus*, in botany. See the article **CORNUS**.

CORNELIAN, *sarda*, the same with carnelian. See **CARNELIAN**.

CORNELIAN-CHERRY, a name sometimes given to a species of cornel-tree.

CORNER, *angulus*, in a general sense, the same with angle. See **ANGLE**.

CORNERS, or **ANGLES**, *of the volte*, in the manege, the extremities of the four lines of the volte, when you work in a square.

CORNER-TEETH *of a horse*, the four teeth placed between the middling teeth and the tusks, being two above and two below, in each side of the jaw, which shoot forth when the horse is four years and a half old.

CORNER-STONES, among builders, the two stones which stand one in each jaumb of a chimney. The breadth of each stone ought to be equal to that of the jaumb, and its face to be hollowed in the sweep of a circle; their height ought to reach from

from the hearth to the mantle-tree: they are commonly made of Ryegate or fire-stone.

CORNET, in the military art of the ancients, an instrument much in the nature of a trumpet, which when it only sounded, the ensigns were to march alone, without the soldiers; whereas, when the trumpet only sounded, the soldiers were to move without the ensigns. The cornets and buccinæ sounded the charge and retreat, and the cornets and trumpets sounded during the course of the battle.

CORNET, in the military art of the moderns, the third commission-officer in a troop of horse or dragoons. This is a very honourable post: he commands in the lieutenant's absence; his principal duty being to carry the standard, near the middle of the first rank of the squadron.

CORNEUS, the name by which Linnæus calls a kind of tin-ore, found in black columns, with irregular sides, and terminating in prisms. See **TIN**.

CORNICHE, **CORNISH**, or **CORNICE**, in architecture, the uppermost member of the entablature of a column, as that which crowns the order. The corniche is the third grand division of the trabeation, commencing with the frieze, and ending with the cymatium. The corniche is different in different orders, there being as many kinds of corniches as there are different orders of columns. It is most plain in the tuscan order. Vignola makes it consist of an ovum or quarter-round, an astragal or baguette, the reglet or fillet, the larmier, and the talon. See the article **TUSCAN ORDER**. In the ionic, the members are in most respects the same as in the doric, except that they are frequently enriched with carvings, and have always dentils. See the article **IONIC ORDER**.

In the doric, Vignola makes the capitals of the triglyphs of the frieze, with their bandeletters, a talon, mutules or dentils, a larmier with its guttæ underneath, a talon, fillet, cavetto, and reglet. See the article **DORIC ORDER**.

The corinthian corniche is the richest and is distinguished by having both modillions and dentils, contrary to the opinion of Vitruvius, who looks upon these two ornaments as incompatible; and of Mr. Le Clerc, who accounts the dentils as peculiar to the ionic. See the articles **CORINTHIAN ORDER** and **MODILLION**.

In the composite there are dentils, its mouldings carved, and there are channels under the soffit. See the article **COMPOSITE ORDER**.

For the height and projectures of the corniches in the several orders, Goldman makes the height of the tuscan $1\frac{1}{2}$, and its projecture $2\frac{2}{3}$ modules; the height of the doric $1\frac{1}{2}$, and its projecture $2\frac{2}{3}$; height of the ionic $1\frac{3}{4}$, its projecture $2\frac{2}{3}$; height of the corinthian $1\frac{3}{4}$, its projecture $2\frac{1}{3}$; height of the composite $1\frac{3}{4}$, its projecture $2\frac{1}{3}$.

CORNICHE is also used, in general, for all little projectures in masonry or joinery, even where there are no columns, as the corniche of a chimney, beaufet, &c.

Architrave-CORNICHE, that immediately contiguous to the architrave, the frieze being retrenched.

Mutilated-CORNICHE, one whose projecture is cut, or interrupted to the right of the larmier: or reduced into a platband, with a cimatium.

Cantaliver-CORNICHE, a term used by workmen for a corniche that has cantalivers underneath. See **CANTALIVERS**.

Coving-CORNICHE, that which has a great cament or hollow in it, ordinarily lathed and plastered upon compass-sprechts, or brackets.

Modillion-CORNICHE, one with modillions under it. See the article **MODILLION**.

CORNICHE is also used for the crownings of pedestals. See the article **PEDESTAL**.

CORNICHE-RING, of a piece of ordnance, is that next from the muzzle-ring, backward. See the article **CANNON**.

CORNICULARIS PROCESSUS, the process or knob of the shoulder-bone, called thus because it resembles the figure of a crow's beak.

CORNICULARIUS, in roman antiquity, an officer of the army, appointed to assist the military tribune in quality of lieutenant.

They went the rounds instead of the tribune, visited the watch, and were mostly the same with what the aids-major are in the french army: they had their name from a little horn they made use of, in giving their orders to the soldiers.

CORNICULATE, or **CORNICULATED FLOWER**, one with a sharp-pointed appendage, resembling, in some degree, a cock's spur.

CORNICULATE PLANTS, the same with siliquose plants with horned pods, or seed-vessels.

CORNISH,



Fig. 1. COLUBER.

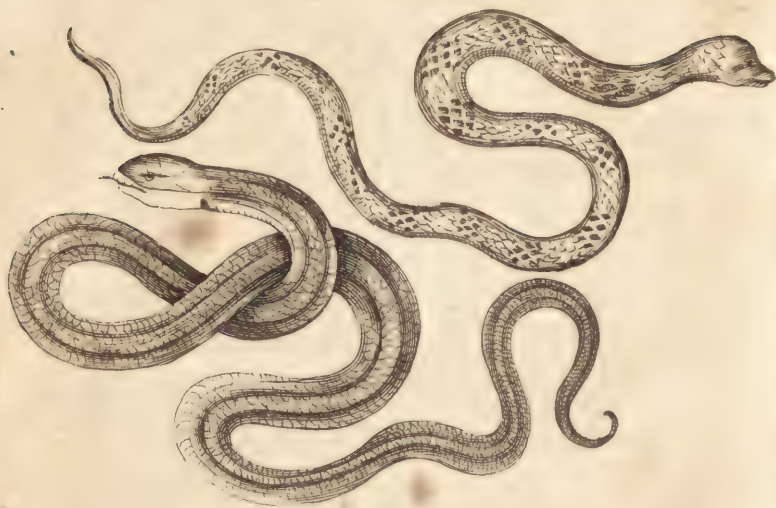


Fig. 2. CORNUS, the CORNELL-TREE.

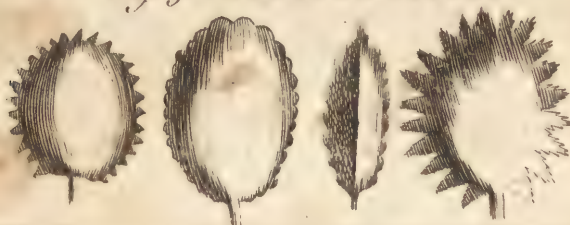
Fig. 3. COPPELS.



Fig. 4. COTULA.



Fig. 5. CRENATED LEAVES.



CORNISH, or **CORNICHE**, in architecture.
See the article **CORNICHE**.

CORNISH RING, the same with **astragal**.
See the article **ASTRAGAL**.

CORNIX, in ornithology, the name by which authors call several species of *corvus*, viz. the common crow, the royston crow, the bluish crow or roller, and the rook. See **CORVUS** and **CROW**.

CORNU, **HORN**, in physiology. See **HORN**.
CORNU AMMONIS, or **HAMMONIS**, in natural history, a genus of fossil shells, called serpent-stones, or snake-stones, by the vulgar.

They are found of all sizes, from the breadth of a six-pence to more than two feet in diameter; some of them rounded, others greatly compressed, and lodged in different strata of stones and clays; some again are smooth, and others ridged in different manners, their striæ and ridges being either straight, irregularly crooked, or undulated. See plate LI. fig. 6.
The *cornua ammonis* undoubtedly belong to the cochlea-kind of shells. See the article **COCHLEA**.

CORNU CERVI, **HART'S HORN**, in the materia medica. See **HART'S HORN**.

CORNUCOPIA, or **HORN of plenty**, among painters, &c. is represented under the figure of a large horn, out of which issue fruits, flowers, &c. Upon medals the cornucopia is given to all deities, genii, and heroes, to mark the felicity and abundance of all the wealth procured by the goodness of the former, or the care and valour of the latter.

CORNUCOPIÆ, in botany, a genus of the triandria-digynia class of plants, the flower of which is univalvular; there is no pericarpium, but the corolla incloses a single turbinate seed, convex on one side, and plane on the other.

CORNUS, the **CORNEL TREE**, in botany, a genus of plants belonging to the tetrandria-monogynia class, the flower of which consists of four oblong, acute, plane petals; the fruit is a roundish umbilicated drupe; the seed a cordated or oblong nut, with two cells. See plate LIII. fig. 2.

The fruit of this tree is cooling, drying, and astringent; strengthens the stomach, stops all kinds of fluxes and looseness, and is good in fevers, especially if attended with a diarrhoea.

CORNU CIA, in botany, a genus of the didynamia-angiospermia class of plants, the flower of which is monopetalous and ringent; the limb quadrifid, the upper

segment being erect and roundish, the lateral one distinct, and the lower roundish and entire: the fruit a globose berry, with a reniform seed.

CORNWAL, the most westerly county of England, which gives the title of duke to the prince of Wales.

It sends forty-four members to parliament.

CORODY, in our law, signified antiently a sum of money, or allowance of meat, drink, and cloathing, that was due to the king from an abbey, or other house of religion, of which he was founder, towards the sustenance of such of his servants as he thought proper to bestow it upon.

COROLLA, among botanists, the most conspicuous part of a flower, surrounding the organs of generation, and composed of one or more flower-leaves, most commonly called petals, to distinguish them from the leaves of the plant: according as there is one, two, or three of these petals, the corolla is said to be monopetalous, dipetalous, tripetalous, &c. See the articles **FLOWER**, **PETAL**, &c.

COROLLARY is an useful consequence drawn from something already advanced or demonstrated: thus it being demonstrated that a triangle which has two equal sides, has also two angles equal; this corollary will follow, that a triangle which has three sides equal, has also its three angles equal.

COROLLISTS, *corollistæ*, an appellation given by Linnæus to those botanists, who have arranged plants under distinct classes according to the different form of their corollæ or flowers; such is the celebrated Tournefort and Rivinus. See the article **BOTANY**.

COROLLULA, a term used by botanists, to express the little partial flowers, which together make up the compound ones.

These corollulæ are of two kinds, the tubulated and ligulated; the former whereof are always furnished with a campanulated limb, divided into four or five segments; and the latter have only a flat linear limb, terminated by a single point, or by a broader extremity, divided into three or five segments. See **FLOWER**.

CORONA, **CROWN**, or **CROWNING**, in architecture. See **CROWNING**.

CORONA, among anatomists, denotes that edge of the glans penis where the prepuce begins. See **PENIS**, &c.

CORONA, among botanists, expresses any thing growing on the head of a seed. These coronæ are of various kinds; sometimes simple, consisting only of a dentated

dentated membrane : sometimes pappose, consisting of downy matter ; which, in some cases, is immediately affixed to the seed ; in others it has a pedicle growing from it ; and it sometimes is composed of simple filaments, and sometimes is ramose. Hence, in the description of the seeds of plants, they are frequently said to be crowned or winged with down : the use of this part being evidently to scatter and disperse the seeds, when ripe.

CORONA BOREALIS, the **NORTHERN CROWN**, or **GARLAND**, in astronomy, a constellation of the northern hemisphere, whose stars in Ptolemy's catalogue are 8, in Tycho's as many, and in Mr. Flamsteed's 21.

CORONA MERIDIONALIS, a southern constellation, consisting of thirteen stars.

CORONA CLERICALIS, the same with coif. See the article **COIF**.

CORONA IMPERIALIS, in natural history, a beautiful shell of the voluta-kind, distinguished by certain eminences forming a sort of crown. See **VOLUTA**.

CORONÆ JUS. See the article **JUS**.

CORONÆ PLACITORUM CUSTOS. See the article **CUSTOS**.

CORONAL, *coronalis*, in anatomy, the first suture of the skull. See the articles **SUTURE** and **SKULL**.

This suture reaches transversely from the one temple to the other, and joins the os frontis with the ossa parietalia.

CORONALE OS, in anatomy, the same with the os frontis. See **FRONTIS**.

CORONARIA, in botany, a genus of the decandria-pentagynia class of plants, the corolla of which consists of five petals, their ungues being of the length of the cup, and increased by a margin : the fruit is a cylindric capsule, containing one cell, and opening at the top : the seeds are numerous and roundish.

CORONARY VESSELS, *vasa coronaria*, in anatomy, certain vessels which furnish the substance of the heart with blood.

CORONARY ARTERIES, are two arteries springing out of the aorta, before it leaves the pericardium.

CORONARY VEIN, a vein diffused over the exterior surface of the heart. It is formed of several branches arising from all parts of the viscus, and terminates in the vena cava, whither it conveys the remains of the blood brought by the coronary arteries.

Stomachic **CORONARY**, a vein inserted into the trunk of the splenic vein ; which, by uniting with the mesenteric, forms the

vena porta. See the article **PORTA** :

CORONATION, the public and solemn confirming the title, and acknowledging the right of governing to a king or queen ; at which time the prince swears reciprocally to the people, to observe the laws, customs and privileges of the kingdom, and to act and do all things conformable thereto. See the articles **KING**, &c.

CORONATORE ELIGENDO, in law, a writ that lies directed to the sheriff, out of the court of chancery, on the death or discharge of any coroner, commanding him to call the freeholders of the county, for the election of a new coroner, and to certify to the said court both the election and the name of the party chosen, and to administer his oath to him, &c.

CORONATORE EXONERANDO, a writ that lies for the discharge of a coroner on account of negligence of his duty, or insufficiency.

CORONE, in anatomy, the anterior apophysis of the lower jaw. See **JAW**.

CORONER, an antient officer of this kingdom, so called because he is wholly employed for the king and crown.

The office of coroners especially concerns the pleas of the crown ; and they are conservators of the peace in the county where elected, being usually two for each county. Their authority is judicial and ministerial : judicial, where a person comes to a violent death ; to take and enter appeals of murder, pronounce judgment on outlawries, &c. and to enquire into the lands, goods, and escape of murderers, treasure-trove, wreck of the sea, deodands, &c. The ministerial power is when coroners execute the king's writs, on exception taken to the sheriff, as being party in a suit, of kin to either of the parties, or on the default of the sheriff, &c. The authority of the coroner does not terminate on the demise of the king, as that of judges, &c. does, who act by the king's commission. On default of sheriffs, coroners are to impanel juries, and to return issues on juries not appearing, &c.

CORONET. See the article **CROWN**.

CORONET, or **CRONET** of a horse, the lowest part of the poll, which runs round the coffin, and is distinguished by the hair joining and covering the upper part of the hoof.

CORONILLA, **HATCHET-VETCH**, in botany, a genus of the diadelphia-decandria class of plants, whose corolla is papilionaceous ;

aceous; the vexillum cordated, bent backwards, and scarce longer than the alæ, standing in clusters at the top of the branch: the fruit is a very long, slender pod, contracted between each seed, and formed of two valves, with only one cell; the seeds are numerous, and of a round figure. See plate LIV. fig. 4.

CORPORA CAVERNOSA, in anatomy. See the article CAVERNOSE.

CORPORA OLIVARIA, two protuberances of the medulla oblongata. See the articles BRAIN and OLIVARIA CORPORA.

CORPORA PYRAMIDALIA, two protuberances of the under-part of the cerebellum, so called from their resemblance of a pyramid. See CEREBELLUM.

CORPORA STRIATA, two protuberances in the lateral ventricles of the brain. See the article BRAIN.

CORPORAL, an inferior officer under a serjeant, in a company of foot, who has charge over one of the divisions, places and relieves centinels, and keeps good order in the corps de garde: he also receives the word from the inferior rounds, which passes by his corps de garde. This officer carries a fusée, and is commonly an old soldier: there are generally three corporals in each company.

CORPORAL of a ship, an officer who has the charge of setting and relieving the watches and centries, and who sees that the soldiers and sailors keep their arms neat and clean: he teaches them how to use their arms, and has a mate under him.

CORPORAL, *corporale*, in the christian church, a name for the linen cloth thrown over the consecrated elements at the celebration of the eucharist. See the article EUCHARIST.

The institution of it is ascribed to Eusebius bishop of Rome, about the year 300.

CORPORATE, or **INCORPORATE**, is said of corporations. See the article CORPORATION.

CORPORATE COUNTY. See COUNTY.

CORPORATION, a body politic, or incorporate, so called because the persons or members are joined into one body, and are qualified to take and grant, &c.

Corporations are either spiritual or temporal: spiritual, as bishops, deans, archdeacons, parsons, vicars, &c. Temporal, as mayor, commonalty, bailiff, burgesses, &c. And some corporations are of a mixed nature, composed of spiritual and temporal persons, such as heads of

colleges and hospitals, &c. All corporations are said to be ecclesiastical or lay: ecclesiastical are either regular, as abbeys, priories, chapters, &c. or secular, as bishoprics, deaneries, archdeaconries, &c. lay, as those of cities, towns, companies, or communities of commerce, &c. See ABBEY, COMPANY, &c.

Corporations may be established three different ways, *viz.* by prescription, letters patent, or act of parliament; but are most commonly established by patent or charter. London is a corporation by prescription: but though corporations may be by prescription, yet it shall be intended, that it did originally derive its authority by a grant from the king.

A corporation may be dissolved; for it is created upon a trust, and if it be broken, it is forfeited. No person shall bear office in any corporation but such as have received the sacrament, taken oaths, &c. and none are to execute in a corporation for more than a year. A corporation cannot sue or appear in person, but by an attorney.

Ordinances made by corporations, to be observed on pain of imprisonment, forfeiture of goods, &c. are contrary to Magna Charta. Actions arising in any corporation, may be tried in the corporation courts: but if they try actions not within their jurisdictions, and encroach upon the common law, they are liable to be punished for it. The corporation of the city of London is to answer for all particular misdemeanors committed in any of the courts of justice within the city, and for all other general misdemeanors committed in the city.

CORPOREAL, those qualities which denominate a body. See QUALITY, BODY, and INCORPOREAL.

CORPORIFICATION, or **CORPORATION**, in chemistry, the operation of recovering spirits into the same body; or, at least, into a body nearly the same with what they had before their spiritualization.

CORPS DE GARDE, a post in an army, sometimes under covert, sometimes in the open air, to receive a number of soldiers, who are relieved from time to time, and are to watch in their turns, for the security of some more considerable post.

Corps de garde is frequently used for the men who watch in this post.

CORPS DE BATAILLE, the main body of an army, drawn up in order of battle. See the articles ARMY and GUARD.

CORPS, in architecture, a term to signify any part that projects or advances beyond the naked of a wall, serving as a ground for some decoration, or the like.

CORPULENCY, in medicine, the state of a person too much loaded with flesh or fat. An excessive degree of corpulency or fatness becomes a disease, when the whole body, as well as the belly, is grown into such a bulk, that the actions, especially with respect to motion and respiration, are greatly impaired if not entirely impeded. Boethaave observes,* that corpulency does not consist in the solids of the body's being increased, but in their being distended to a greater pitch by the abundance of humours collected in them.

Corpulency arises from a laudable, copious, oily, soft blood, containing less than its share of salt; and is promoted by any thing that tempers and softens the blood, and renders it less sharp and saline; such are want of exercise and motion, an indolent life, too much sleep, nourishing foods, &c.

There is not a better remedy to reduce a corpulent habit, than acetum scilliticum drunk upon an empty stomach. Semen fraxini, or bird's tongue, as it is called, ad 3j. drank in a morning in a glass of wine, is very much commended as an effectual diuretic, and, on that account, abates corpulency. Borellus commends the chewing of tobacco; but it is not safe for all persons to use it, lest it should throw them into a consumption. Those that are naturally gross and fat oftener die suddenly than other people. The most extraordinary instance of corpulency perhaps ever known, was that of Edw. Bright of Malden, in Essex, who, dying in Nov. 1750, at the age of twenty-nine years, weighed six hundred and sixteen pounds; his waistcoat, with great ease, was buttoned round seven men of ordinary size.

CORPUS, BODY, in physiology. See the article **BODY**.

CORPUS, in anatomy, a term applied to several parts of the animal structure, as corpus callosum, corpus cavernosum, corpus highmori, corpus ladeum ovarii, corpus pampiniforme, &c.

CORPUS CALLOSUM, a medullary part of the brain, which covers the whole lateral ventricles. See the articles **BRAIN** and **CALLOSUM CORPUS**.

CORPUS CAVERNOSUM, a cavernous substance, surrounding the vagina, which

swells in the time of coition. See **VAGINA** and **CAVERNOSE**.

CORPUS PAMPINIFORME, a body formed a little above the testicles, by the division and reunion of the spermatic veins. See the article **SPERMATIC**.

CORPUS RETICULARE. See **RETICULAR BODY**.

CORPUS is also used in matters of literature, for several works of the same nature, collected together in the form of a system of any art or science. See the article **BODY**.

CORPUS CUM CAUSA, in law, a writ issuing out of the chancery, to remove both the body and record, touching the cause of any man lying for execution, upon a judgment for debt, into the king's bench, there to lie till he has satisfied the judgment.

CORPUS CHRISTI, a festival of the church; kept on the next Thursday after Trinity-sunday, instituted in honour of the eucharist; to which also one of the colleges in Oxford is dedicated.

CORPUSCLE, in physics, a minute particle, or physical atom, being such as a natural body is made up of. By this word is not meant the elementary particles, nor the hypostatical principles of chemists; but such particles, whether of a simple or compound nature, whose parts will not be dissolved nor dissipated by ordinary degrees of heat. Sir Isaac Newton, in the second book of his *Optics*, shews a way of guessing, with great accuracy, at the size of the component corpuscles of bodies. See **COLOUR**.

CORPUSCULAR PHILOSOPHY, that way of philosophising which endeavours to explain things, and to account for the phenomena of nature by the motion, figure, rest, position, &c. of the corpuscles, or the minute particles of matter. See the article **ATOMICAL PHILOSOPHY**.

This philosophy is so very antient, that both before Epicurus and Democritus, and even before Leucippus taught in Greece, there was a phœnician philosopher, who explained natural phenomena by the motions and affections of the minute corpuscles of matter, as very old writers inform us: and, therefore, it should rather be called phœnician philosophy, than epicurean.

Mr. Boyle sums up the chief principles of the corpuscular hypothesis, which now flourishes under the mechanical philosophy, in these particulars:

2. They suppose that there is but one catholic or universal matter, which is an extended, impenetrable, and divisible substance, common to all bodies, and capable of all forms. 3. That this matter, in order to form the vast variety of natural bodies, must have motion in some or all its assignable parts; and that this motion was given to matter by God the creator of all things, and has all manner of directions and tendencies. 4. Matter must also be actually divided into parts, and each of these primitive particles, fragments, or atoms of matter, must have its proper magnitude or size, as also its peculiar figure or shape. 5. They suppose also, that these differently sized and shaped particles may have as different orders and positions, whereof great variety may arise in the composition of bodies. See the article EPICUREAN PHILOSOPHY.

CORRECTION, in printing, the pointing out or discovering the faults in a printed sheet, in order to be amended by the compositor, before it be printed off. See the article PRINTING.

The corrections are placed on the margin of every page, right against the line wherein the faults are found: and there are different characters used to express different corrections: thus & is put for *dele*, to intimate that something, as a point, letter, word, &c. dashed in that line, is to be taken out. If any thing is to be inserted, the place is to be marked thus A and the thing to be inserted, added in the margin. When there are two or more corrections in the same line, then they are all separated in the margin by little bars, thus |. If a space be omitted, its place is marked with a caret, and the margin thus #. When a letter is inverted, it is expressed in the margin thus 9. When any thing is to be transposed, it is directed thus, *Extraordinary scarce ever fail of* *attainments* *exciting envy*, for *Extraordinary attainments scarce ever fail of exciting envy*, and in the margin is added *tr*. If italic characters are to be changed for roman, or *vice versa*, a line is drawn thus — under the letters, and *rom.* or *ital.* is written in the margin. If a space, or an m or n quadrat, stick up, and print black, it is marked in the margin with a dash, thus |. If a word, sentence, or paragraph is entirely omitted, the place is marked with a caret, and in the margin is put the word *out*. If the letters of a

word stand too far asunder, a line is drawn under them, and in the margin is put a crooked line or hook, thus U. There are many other marks used in correcting, as ✓ for superior, *cap.* for capital, *L. c.* for lower-case, &c.

CORRECTION, in the manege, denotes aids given with severity. See the articles AID and CHASTISEMENT.

CORRECTION, in pharmacy, the adding some ingredient to a composition, in order to check or moderate the violence of operation: thus, for instance, some carminatives, such as the seed of fennel, or anise, are added to fena-leaves, which when exhibited alone, generally produce flatulencies and gripes. See CORRECTOR.

CORRECTION, in rhetoric, the same with epanorthosis. See EPANORTHOSIS.

CORRECTOR, in general, denotes something that mends the faults or bad qualities of others.

CORRECTOR of the staple, a clerk belonging to the staple, whose business is to write down and record the bargains, that merchants make there.

CORRECTOR, in medicine and pharmacy, an ingredient in a composition, which guards against or abates the force of another.

Thus the lixivial salts prevent the grievous vellications of resinous purges, by dividing their particles, and preventing their adhesions to the internal membranes, whereby sometimes they occasion intolerable gripings: and thus spices and carminative-seeds also assist in the easier operation of some cathartics, by dissipating collections of wind. In the making a medicine, such a thing is also called a corrector, as destroys or diminishes a quality in it, that could not otherwise be dispensed with: thus turpentine may be called the corrector of quicksilver, by destroying its fluxity, and making it thereby capable of mixture; and thus rectified spirit of wine breaks off the points of some acids, so as to make them become safe and good remedies which before were destructive.

CORRELATIVE, something opposed to another in a certain relation. Thus, father and son are correlatives. Light and darkness, motion and rest, are correlative and opposite terms.

CORRIDOR, or **CORIDOR**. See the article CORIDOR.

CORRIGIOLA, in botany, a genus of the pentandria trigynia class of plants, the corolla whereof consists of five, oval, patent

patent petals, scarce bigger than the cup; there is no pericarpium but the calyx, which closing, serves in the place of one; the seed is single and ovato-triquetrous.

CORROBORANTS, or **CORROBORATIVE MEDICINES**, the same with **STRENGTHENERS**. See the article **STRENGTHENERS**.

CORROSION, in a general sense, the action of gnawing away, by degrees, the continuity of the parts of bodies.

Acids corrode most natural bodies.

CORROSION, in chemistry, an action on bodies, by means of proper menstrua, that produces new combinations, and a change of their form, without converting them to fluidity. See the article **MENSTRUUM**.

The subject of this operation, as it is used in pharmacy, is principally metals; and the manner in which it is performed is commonly of two kinds: the first and most simple is, when the body to be corroded is put into a fluid menstruum, and either taken out instantly, and put into a moist place, as in the method generally practised in making a cerus; or continued therein till the whole of the matter be corroded, as in the preparation of turbit mineral from the oil of vitriol and mercury. This may properly be called corrosion by immersion. The other, called in domestic chemistry, cementation, is performed by exposing the body to be corroded, to the action of a vapour or steam, expelled by heat, from what is used as the menstruum, as in the process given by the Edinburgh Dispensatory for the making cerus.

There are, nevertheless, other methods by which corrosions are, in most instances, made; as in the rubigo chalybis of the London Dispensatory, where sprinkling or rubbing of the body over with a menstruum are ordered in the place of dipping, which the form of steel-filings made inconvenient; and some others, which from the particular texture of the matter become necessary; thus in the corrosion of mercury by sulphur, in the preparation of æthiops mineral, trituration, or sometimes fusion, is employed; and in the chalybis cum sulphure prep. the heated steel is only touched with the sulphur.

CORRUGATOR, in anatomy, a muscle which arises fleshy from the process of the os frontis, next the inner or great angle of the orbit, above the joining of the os nasi and the superior process of the os maxillare with this bone: from thence

it runs obliquely outwards and upwards, and is inserted into the fleshy part of the occipito-frontalis, some of its fibrillæ passing through into the skin, a little higher than the middle region of the eye brows. Its use is to smooth the skin of the forehead, by pulling it down after the action of the occipito-frontalis; and when it acts most forcibly, it serves to wrinkle the skin of the front between the supercilia, as it happens when we frown, or knit the brows.

CORROSIVES, in surgery, are medicines which corrode whatever part of the body they are applied to: such are burnt alum, white precipitate of mercury, white vitriol, red precipitate of mercury, butter of antimony, lapis infernalis, &c.

CORRUPTICOLÆ, in church-history, a sect of heretics, so called from their maintaining that the body of Christ was corruptible, that the fathers had owned it, and that to deny it was to deny the truth of our Saviour's passion.

CORRUPTION, the destruction, extinction, or, at least, cessation for a time, of the proper mode of existence of any natural body. See **PUTREFACTION**.

Whenever any body loses all or any of those accidents, which are essentially necessary to the constituting of such a particular kind, it is then said to be corrupted, or destroyed, and loses its former denomination: but nothing can be destroyed of its substance, or materiality; for as in generation, nothing of matter is produced that did not before exist, so in corruption, nothing more is lost besides that particular modification which was its form, and constituted it of such a species. Dr. Drake accounts for the corruption of animal and vegetable bodies thus: the principle of corruption is, perhaps, the same which in a state of circulation, is the principle of life, *viz.* the air, which is found mixed in considerable quantities with all sorts of fluids, as necessary to vegetable as to animal life. Now this air has two motions, *viz.* an expansive one, from its natural elasticity, by means whereof it communicates that intestine motion which all juices have, and by which the containing parts are gradually extended, and grow; and a circular or progressive motion, which is not essential to it, but is occasioned by the resistance of the solid parts of those bodies, which obliges it to take that course that is most free and open, which is through the vessels of animals and plants. Now this course

course being stopt, the expansive motion still remains, and continues to act till, by degrees, it has so far overcome the including bodies, as to bring itself to an equal degree of expansion with the external air, which it cannot do without destroying the texture and continuity, or specific degree of cohesion, of those solids, which is what we call a state of corruption.

The expulsive or destructive quality of the air in bodies may be promoted two ways, and therefore corruption accelerated by as many ways, *viz.* either by weakening the tone or cohesion of the including parts, and so facilitating the work of the air, as is the case when fruit is bruised, which is found to corrupt sooner than in any other part: or by extending the expansive force of the air itself by heat, or some other co-operating circumstance, and so helping it to overcome the resistance the sooner.

CORRUPTION of blood, in law, an infection accruing to a man's state, attained of felony and treason, and to his issue; for as he loses all to the prince, &c. his issue cannot be heirs to him, or to any other ancestor by him: and if he were noble, his heirs are rendered ignoble.

CORSAIR, a pirate, or person who scours the sea for plunder, with an armed vessel, without commission from any prince or power. A corsair differs from a privateer, in that the latter acts under a commission, and only attacks the vessels of those at war with the state whence he had his commission.

CORSELET, a little cuirass; or, according to others, an armour or coat made to cover the whole body, antiently worn by the pike-men, usually placed in the front and flanks of the battle, for the better resisting the enemy's assaults, and guarding the soldiers placed behind them.

CORSICA, an island in the Mediterranean, between 8° and 10° east long. and between 41° and 43° north latitude, about one hundred miles south of Genoa, and subject to that republic; though the natives have for many years disputed their right, and are still in arms against them.

CORSNED BREAD, a certain superstitious trial made use of among our saxon ancestors, by taking a piece of bread, and eating it, with solemn oaths and execrations, that it might prove poison, or their last morsel, if what they asserted or denied was not true.

The bread was first accursed by the priest, and then offered the suspected criminal, to

be swallowed by way of purgation, it being believed that it would choak him, if he was not innocent.

CORTEX, BARK, in phytology and dendranatomy. See the article BARK.

CORTEX, or **CORTEX PERUVIANUS**, is more particularly used for the quinquina, or jesuits-bark. See **QUINQUINA**.

CORTEX WINTERANUS, in botany, &c. See the article **WINTER'S BARK**.

CORTEX CEREBRI, the cortical part of the brain, so called on account of its greyish colour. See the article **BRAIN**.

CORTICAL, in general, something consisting of, or resembling bark. Hence the

CORTICAL part of the brain, is the exterior part, so called on account of its investing the internal or medullary part, as the bark of a tree does the woody part. See the article **BRAIN**.

CORTONA, a city of Tuscany, in Italy, about thirty-five miles south-east of Sienna: east longitude 13° , and north latitude $43^{\circ} 15'$.

CORTUSA, in botany, a genus of the pentandria-monogynia class of plants, the flower of which consists of one rotated petal; the fruit is an ovato-oblong acuminate capsule, furrowed longitudinally on each side, with two valves having their sides involuted, and one cell containing numerous oblong, obtuse, small seeds. The leaves, says Dale, promote expectoration.

CORVET, or **CURVET**, in the manege. See the article **CURVET**.

CORUNNA, or **GROYNE**, a port-town of Galicia, in Spain, situated on a fine bay of the Atlantic ocean, about thirty-two miles north of Compostella: west longitude 9° , and north lat. 43° .

It is to this port that the english packet-boat always goes, in time of peace.

CORUSCATION, a glittering, or gleam of light issuing from any thing. It is chiefly used for a flash of lightening darting from the clouds in time of thunder. See **LIGHTENING** and **THUNDER**. There is a method of producing artificial coruscations, or sparkling fiery meteors, which will be visible not only in the dark, but at noon day, and that from two liquors actually cold; the method is this: fifteen grains of the solid phosphorus are to be melted in about a dram of water; when this is cold pour upon it two ounces of oil of vitriol; let these be shaken together, and they will at first heat, and afterwards they will throw up fiery balls in great number, which will adhere

adhere like so many stars to the sides of the glass, and continue burning a considerable time; after this, if a small quantity of oil of turpentine be poured in, without shaking the vial, the mixture will of itself take fire, and burn very furiously. The vessel should be large, and open at the top. See INFLAMMABILITY.

Artificial coruscations may also be produced by means of oil of vitriol and iron, in the following manner. Take a glass body, capable of holding three quarts; put into this three ounces of oil of vitriol, and twelve ounces of common water; then warming the mixture a little, throw in, at several times, two ounces or more of clean iron filings; upon this an ebullition, and white vapours will arise: then present a lighted candle to the mouth of the vessel, and the vapour will take fire, and afford a bright fulmination, or flash like lightening. Applying the candle in this manner several times, the effect will always be the same; and sometimes the fire will fill the whole body of the glass, and even circulate to the bottom of the liquor, and at others it will only reach a little way down its neck. The great caution to be used in this experiment is the making the matter of a proper heat; for, if too cold, few vapours will arise, and if made too hot, they will ascend too fast, and will only take fire in the neck of the glass, without any remarkable coruscation.

CORVUS, the **RAVEN** or **CROW**-kind, in ornithology, a genus of birds, of the order of the picae, the distinguishing characteristic of which is, that the beak is of a convex and cultrated figure, the chaps nearly equal, and the base beset with hairs. To this genus belong the raven, the crow, rook, jackdaw, &c. See the article **RAVEN**, **CROW**, **ROOK**, &c.

CORVUS, the **RAVEN**, in astronomy, a constellation of the southern hemisphere, wherein, according to Ptolemy and Tycho's catalogue, are seven stars; whereas the Britannic catalogue reckons no less than ten.

CORVUS, in antiquity, a machine invented by the Romans at the time of their wars in Sicily; when they first engaged the carthaginian fleet. According to Polybius, the corvus was framed after this manner:

On the prow of their ships they erected a round piece of timber about $1\frac{1}{2}$ foot diameter, and twelve feet in length, on the top of which was a block, or pulley;

round this piece of timber was a platform of boards four feet in length, which was about eighteen feet long, and well framed and fastened with iron; the entrance was longways, and it was moveable round the aforesaid upright piece of timber, and could also be hoisted up and down within six feet of the top: about this frame was a sort of parapet knee high, which was defended with upright bars of iron, sharp at the ends, and towards the top there was a ring, by the help of which, and a pulley, or tackle, it was hoisted and lowered at pleasure; with this moveable gallery, they boarded the enemies ships (when they did not lie side by side) sometimes on their bow, and sometimes in the after part of the ship; the soldiers keeping the bos of their bucklers level with the top of the parapet, &c. and by the means of this new engine got a victory over the Carthaginians in their first sea-fight with them, though the enemy were long before well skilled in naval affairs, and the Romans raw and ignorant.

CORYBANTES, in antiquity, priests of the goddess Cybele, who, inspired with a sacred fury, danced up and down, tossing their heads and beating on cymbals or brazen drums. They inhabited mount Ida, in the island of Crete, where they nourished the infant Jupiter, keeping a continual rattling with their cymbals, that his father Saturn, who had resolved to devour all his male offspring, might not hear the child's cries.

CORYBANTICA, in grecian antiquity, a festival kept in honour of the corybantes.

CORYCOMACHIA, among the antients, was a sort of exercise in which they pushed forwards a ball, suspended from the ceiling, and at its return either caught it with their hands, or suffered it to meet their body. Oribasius informs us it was recommended for extenuating too gross bodies.

CORYLUS, the **HAZLE**, in botany, a genus of the monoecia-polyandria class of plants, the male flowers of which are disposed in form of a long amentum; the female ones are remote from the males, on the same plant, sessile, and included in a gem; there is no corolla nor pericarpium; the fruit is a subovated nut, with a deraded base, and top a little compressed and a little acuminate. See plate LIV, fig. 7.

The kernels of filberds and spanish nuts, though

Fig. 1.
COMPOSED.

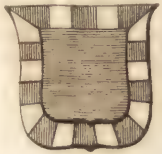


Fig. 2.
COUCHANT.



Fig. 3.
CONYZA.



Fig. 4. CORONILLA.



Fig. 5. COTINUS.



Fig. 6. COTYLEDON.



Fig. 7. CORYLUS.



Fig. 8. CROCUS.



Fig. 9. CUCUMBER.





though commonly eaten, are difficult of digestion, and consequently bad for the stomach, and the cause of head-achs.

CORYMBIFEROUS PLANTS are such as have a compound discous flower, but their seeds have no down adhering to them. They bear their flowers in clusters, and spreading round in the form of an umbrella. Of this kind are the corn-marygold, common ox-eye, the daisy, camomile, mug-wort, feverfew, &c.

CORYMBIUM, in botany, a genus of plants belonging to the syngenesia-monogamia class, the flower of which is monopetalous and equal; the limb being divided into five lanceolated segments; there is no pericarpium; the immutated cup contains one oblong seed, covered with a wool like down.

CORYMBUS, *κορυμβος*, among botanists, clusters of berries, as those of ivy. See the article **CORYMBIFEROUS**.

Jungius uses it to signify the extremity of a stalk, so subdivided and loaded with flowers, or fruits, as to compose a spherical figure. It is also, by modern botanists, used to signify a compound discous flower, which does not fly away in down, the chrysanthemum, daisy, chrysocome, &c. for this kind of flowers, being spread into breadth, resemble an umbrella, or bunch of ivy-berries.

CORYPHA, in botany, a genus of plants, the characters of which are not perfectly ascertained: the general spathe is compound; the spadix ramose; and the corolla is divided into three oval, obtuse, patent segments; the stamina are six subulated filaments, longer than the corolla; the antheræ are adnate; the germen is roundish; the style is subulated and short; the stigma is simple; the fruit is a large, globose, unilocular berry; the seed is single, off-sous, large and globose.

CORYPHÆNA, in ichthyology, a genus of malacopterygious fishes, which have five ossicles, or little bones, in the branchiostegæ membrane, and their back-fin reaches from the head to the tail.

To this genus belong the hippurus, novacula, and pompilus. See the article **HIPPURUS**, &c.

CORYPHE, among physicians, the crown of the head; also, the interior extremity of the fingers, next the nails.

CORYZA, in medicine, a catarrhal affection, consisting in the excretion of a serous and viscous humour, by the nose and fauces. Some also understand the same thing by the word *gravedo*, mak-

ing this and the *coryza* synonymous terms, but improperly; for the *gravedo* is, strictly speaking, a catarrhal affection, in which there is no actual excretion of a serous matter, but only a congestion of it with stagnation; whence it is easy to conceive, that the symptoms attending the *gravedo*, when the matter is confined, are worse than those in the *coryza*, in which it is evacuated. See **CATARRH**.

This disease is generally preceded by an itching, and by sneezing; sometimes by what is called a *gravedo*, a congestion of matter without excretion; this is followed by the excretion of a serous and viscous matter by the nostrils and mouth, and sometimes by the eyes; the more thin and acrid this matter is, the more severely it affects the part through which it is evacuated, so that sometimes it is attended with a sensation of pain, and soreness in them.

These diseases are very frequent; and among children, they usually take their rise in them from obstructions of perspiration, or from suppressions of urine. Young people, as they grow farther up, are subject to them from an abundant quantity of the salival matter: and in more advanced years, those people fall into them, in whom nature is not able to relieve herself, by a hæmorrhage: and people of phlegmatic habits, and sleepy dispositions, are most subject to them.

The general causes of these defluxions, are the same with those of hæmorrhages by the nose, that is, a congestion of blood in the head, by means of a discharge of which, nature meant to relieve herself of a plethora: but in these cases, the blood being very abundant in serosities, these being the thinner part, are most easily thrown out, and so pass off alone, leaving the red part behind. Sometimes also these diseases are produced by a mere retention of the serous and lymphatic juices in and about the glands of these parts; but this is much more rarely the case. The occasional or accidental causes which bring on these congestions and stagnations, are, the suppression of other evacuations, such as, habitual and natural diarrhoeas, or the evacuations by purging medicines, which persons had long accustomed themselves to at the spring and autumn seasons: the cold and moist temperature of the air, or a sudden chilling of the body in a hot and moist place: the leaving off a copious use of tobacco, and the abuse of snuff, or other strenuatory powders. To this

this is to be added, every thing that impedes natural perspiration, and sometimes suppressions of urine.

The simple coryza and gravedo are attended with no great danger, not even when they are of long standing, provided that the constitution be strong and healthy in other respects. But this is not the case in old and weak people; for in these, this continual defluxion upon the head too often brings on vertiginous complaints, and sometimes paralytic, and even apoplectic disorders, or else asthma, and suffocative catarrhs, are the consequence: and if this matter, so copiously secreted from the blood, be thrown upon the lungs, it may occasion exulcerations, and even a true phthisis.

This is a disease which few people trouble a physician about, being usually left to nature; but it is, however, in the power of medicine to do great service, and, usually, wholly to remove the complaint; which, even where it is not attended with danger, is so far troublesome, as that any one would wish to be rid of it. In cases of a gravedo, a just and necessary excretion of the congested matter must be provided for; and this may easily be contrived to be made, by less troublesome evacuations than those to which nature seems to point, and by more convenient outlets; and by continuing this method, the future distempers of this kind may be anticipated and prevented. For the ready discharge of the matter, according to the intent of nature, erubines are to be used; the powders of the cephalic herbs, as thyme, betony, lavender, and the like, may be snuffed up the nose, and the volatile pungent salts may be snuffed too: after this, it will be proper to give a gentle purge; and when the cure is perfected, the return may be prevented by bleeding and purging in autumn. When the defluxion is very violent, the use of gentle diaphoretics is recommended, and a powder composed of cinnabar, and a gentle opiate. In cases where the matter of a coryza is very acrid, and there is a violent pain in the head, the external use of camphor is of great service; it is in this case to be applied to the temples, and the patient should at the same time take internally powders composed of nitre, and the common absorbents, and diaphoretic antimony, and afterwards should take some gentle purges, and frequently bathe the feet in warm water.

CORZOLA, or **CURSCOLA**, an island in

the gulph of Venice, divided from Ragusa, in Dalmatia, by a narrow strait: east long. 18° , and north lat. $42^{\circ} 35'$.

COS, the **WHET-STONE**, in natural history, a genus of vitrescent stones, consisting of fragments of an indeterminate figure, sub-opake and granulated.

Of this genus there are several species, some consisting of rougher and others of smoother, or even of altogether impalpable particles; and used not only for whet-stones, but also for mill-stones and other the like purposes.

Cos or **KOS**. See the article **Kos**.

COSCINOMANCY, *κοσκινομαντεία*, among the antients, the art of divination by means of a sieve. It was generally practised to discover thieves, or others suspected of any crime, in this manner: they tied a thread to the sieve, by which it was suspended; or else placed it on the point of a pair of sheers, which they held up by two fingers; then prayed the gods to direct and assist them: after that they repeated the names of the persons under suspicion, and he, at whose name the sieve whirled round, or moved, was thought to have committed the fact.

This practice must have been very ancient, being mentioned by Theocritus, in his third Idyllion.

CO-SECANT, in geometry, the secant of an arch which is the complement of another to 90° . See the articles **SECANT** and **COMPLEMENT**.

COSENAGE, or **COGNATION**, in law, a writ that lies where the great-grandfather is seized in his demesne, as of fee, at the day of his death, of certain lands and tenements, and dying, a stranger enters and abates: then shall the heir have this writ of cosenage.

COSENZA, the capital of the higher Calabria, in the kingdom of Naples: east long. $16^{\circ} 35'$, and north lat. $39^{\circ} 15'$. It is an archbishop's see.

COSHERING, or **COCHERING**, in the feudal law, a grievous exaction imposed by a sort of prerogative, or signoral authority of the lords upon their tenants, in lying and feasting, with all their retinue, for sometime at their houses.

CO-SINE, in trigonometry, the sine of an arch, which is the complement of another to 90° . See the article **SINE**.

COSMETIC, in physic, any medicine or preparation which renders the skin soft and white, or helps to beautify and improve the complexion, as lip salves, cold creams, cerufs, &c.

It is said that the Indians improve their complexions wonderfully by washing with the water of green cacao-nuts.

COSMICAL, a term in astronomy, expressing one of the poetical risings of a star: thus, a star is said to rise cosmically, when it rises with the sun, or with that point of the ecliptic in which the sun is at that time: and the cosmical setting is when a star sets in the west at the same time that the sun rises in the east.

COSMICAL ASPECT, among astrologers, the aspect of a planet, with respect to the earth. See the article **ASPECT**.

COSMICAL QUALITIES are, by Mr. Boyle, used in the same sense with systematical ones, or those resulting from the system of the universe.

COSMOGRAPHY, *κοσμογραφία*, a description of the several parts of the visible world, or the art of delineating the several bodies according to their magnitudes, motions, relations, &c.

Cosmography consists of two parts, astronomy and geography. See the articles **ASTRONOMY** and **GEOGRAPHY**.

COSMOLABE, the name of an antient mathematical instrument, resembling the astrolabe, and serving to measure distances both in the heavens and on the earth. See the article **ASTROLABE**.

COSMOPOLITE, a term denoting a citizen of the world, or one who has no fixed residence any where.

COSSACKS, people inhabiting the banks of the rivers Nieper and Don, near the Black sea and frontiers of Turkey. Their country is commonly called the Ukraine, and is mostly subject to Russia.

COSSET, among farmers, a colt, calf, lamb, &c. brought up by hand, without the dam.

COSTÆ, RIBS, in anatomy. See **RIBS**.

COSTAL, an appellation given by anatomists to several parts belonging to the sides: thus we meet with costal muscles, vertebrae, &c.

COSTA RICA, a province of Mexico, bounded by the North sea on the north-east, and by the Pacific ocean on the south-west. Its chief town is New-Carthage.

COSTARUM DEPRESSORES, in anatomy, that part of the intercostal muscles which lies next the ribs. See the article **INTERCOSTAL**.

COSTARUM LEVATORES, the same with the *supracostales*. See **SUPRACOSTALES**.

VOL. I.

COSTIVENESS, *obstrutio alvi*, in medicine, a preternatural detention of the feces, with an unusual driness and hardness thereof, and thence a suppression of their evacuation. See **COLIC**.

If costiveness proceeds from dry hard excrements, a moistening slippery diet of plums, cherries, or scalded apples, with or without raisins, should be taken; coffee should be also drank with milk: but the most effectual means to remove these obstructions, to raise the spirits, and the languid fibres of the intestines, are gentle purges, such as purging mineral waters, purging salts, sal mirabile Glauberi, warm water, and the common purging potion, as well as the lenitive electuary, and emollient clysters.

Hoffman says an obstinate costiveness is owing generally to spasms in the intestines themselves, or in the lower part of the colon and rectum; or, as propagated by consent from the more remote parts. The suppression of this evacuation produces scybals, generates flatulencies and other grievous symptoms, especially in hypochondriac and hysteric persons: but when this disease is constitutional, it may be borne a long time without danger.

For costiveness in children, Boerhaave recommends absorbents, and orders seven grains of the testaceous powders, three times a day. The nurse must forbear feeding upon any thing that is sour or acid. Harris believes an acid to be so predominant in infants as to cause all their diseases.

COSTMARY, the english name of a species of tanzy. See **TANACETUM**.

COSTS, in law, signifies the expences of a suit recovered by the plaintiff, together with damages.

COSTUME, a term among painters: thus, a painter must observe the costume; that is, he must make every person and thing sustain its proper character, and not only observe the story, but the circumstances, the scene of action, the country or place, and make the habits, arms, manners, proportions, and the like, to correspond.

COSTUS, in botany, a genus of the monandria-monogynia class of plants, the flower of which consists of three lanceolated, concave, equal petals, placed pretty erect; the fruit is a roundish, coronated, trivalvular capsule with three cells, containing several triangular seeds.

The root of this plant, or the *costus arabicus* in pharmacy, is an attenuant, a

5 G

diuretic,

diuretic, and a sudorific: it is given in obstructions of the menses, and in chronic cases, in which there are infarctions of the viscera: its dose is from ten grains to half a dram, but we seldom hear of its being given singly. It is used in the venice treacle, mithridate, and caryocostine electuary. Costus must be chosen recent, dense, odorous, bitterish, and not carious.

It pays on importation a duty of $3\frac{87\frac{1}{2}}{100}$ d.

per pound, and there is a drawback on exportation of $3\frac{40}{100}$ d.

CO-TANGENT, the tangent of an arch, which is the complement of another to 90° . See the article **TANGENT**.

COTICE, or **COTISE**, in heraldry, is the fourth part of the bend, and with us seldom if ever borne but in couples, with a bend between them. See **BEND**.

The bend thus bordered, is said to be coticed; as, he bears sable, on a bend coticed argent, three cinquefoils. See plate **LXII. fig. 1.**

COTINUS, **SUMACH**, in botany, the name of Tournefort for a genus of the pentandria trigynia class of plants, the flower of which consists of five ovated petals, scarce larger than the cup; the fruit is an oval berry, with one cell containing a single triangular seed. See plate **LIV. fig. 5.** The whole plant is thought to be extremely drying and astringent: the wood is used in the southern parts of France to dye woollen cloth yellow; and the leaves are used by the tanners for preparing their leather. See the article **SUMACH**. Linnaeus calls this plant *Rhus*.

COTRONA, a town of the further Calabria, in the kingdom of Naples, situated on the Mediterranean, about fifteen miles south-east of St. Severino: east long. $17^\circ 40'$, and north latitude $38^\circ 50'$.

It is the see of a bishop.

COTTAGE, a little house without lands belonging to it.

COTTON, in commerce, a soft downy matter found on the gossypium of botanists. See the article **GOSSYPIMUM**.

Cotton is separated from the seeds of the plant by a mill, and then spun and prepared for all sorts of fine works, as stockings, waistcoats, quilts, tapestry, curtains, &c. With it they likewise make muslin, and sometimes it is mixed with wool, sometimes with silk, and even with gold itself.

The finest sort comes from Bengal and the coast of Corman-del.

Cotton makes a very considerable article in commerce, and is distinguished into cotton-wool and cotton-thread. The first is brought mostly from Cyprus, St. John d'Acre, and Smyrna: the most esteemed is white, long and soft. Those who buy it in bales should see that it has not been wet, moisture being very prejudicial to it. The price of the finest is usually from six to seven pialters the quintal of forty-four ocos.

Of cotton-thread, that of Damas, called cotton d'once, and that of Jerusalem, called bazas, are the most esteemed; as also that of the Antilles islands. It is to be chosen white, fine, very dry, and evenly spun. The other cotton-threads are the half bazas, the rames, the bele-din, and gondezel; the payas and montasiri, the genequins, the baquins, the jossellassars, of which there are two sorts. Those of India, known by the name of Tutucorin, Java, Bengal, and Surat, are of four or five sorts, distinguished by the letters, A, B, C, &c. They are sold in bags, with a deduction of one pound and a half on each of those of Tutucorin, which are the dearest, and two pounds on each bag of the other sorts. For those of Fielesbas, Smyrna, Aleppo, and Jerusalem, the deduction at Amsterdam is eight in the hundred for the tare, and two in the hundred for weight, and on the value one per cent. for prompt payment.

Cotton of Siam, is a kind of silky cotton in the Antilles, so called because the grain was brought from Siam. It is of an extraordinary fineness, even surpassing silk in softness. They make hose of it there preferable to silk ones, for their lustre and beauty. They sell from ten to twelve and fifteen crowns a pair, but there are very few made, unless for curiosity.

The manner of packing COTTON, as practised in the Antilles. The bags are made of coarse cloth, of which they take three ells and a half each: the breadth is one ell three inches. When the bag has been well soaked in water, they hang it up, extending the mouth of it to cross pieces of timber nailed to posts fixed in the ground seven or eight feet high. He who packs it goes into the bag, which is six feet nine inches deep, or thereabouts, and presses down the cotton, which another hands him, with hands and feet; observing to tread it equally every where, and putting

putting in but little at a time. The best time of packing is in rainy moist weather, provided the cotton be under cover. The bag should contain from 300 to 320 pounds. The tare abated in the Antilles is three in the hundred. Cotton being a production applicable to a great variety of manufactures, it cannot be too much cultivated in our own plantations that will admit of it.

Cotton-wool, not of the british plantations, pays on importation $\frac{7}{100}$ d. the pound, and draws back on exportation $\frac{67\frac{1}{2}}{100}$ d. Cotton yarn the pound, not of

the East Indies, pays $2\frac{87\frac{1}{2}}{100}$ d. and draws

back $2\frac{58\frac{3}{4}}{100}$ d. Cotton yarn the pound, of the East Indies, pays $4\frac{56}{100}$ d. and draws back $4\frac{26}{100}$ d.

Lavender COTTON, a name by which some call the *santolina* of authors. See the article *SANTOLINA*.

Philosophic COTTON, a name given to the flowers of zinc, on account of their white colour, and resemblance to cotton.

Silk-COTTON, in botany, the same with the *xylon* of authors. See *XYLON*.

COTTON-WEED, a name sometimes given to the *gnaphalium*, or cudweed, of the generality of authors. See the article *GNAPHALIUM*.

COTTUS, in ichthyology, a genus of acanthopterygious fishes, distinguished by having six ossicles, or little bones, in the branchiostegic membrane: add to this, that the head is prickly, and broader than the body of the fish.

To this genus belong the *cottus*, called *gobio fluviatilis*, in english the miller's thumb, the *quadricornis*, *scorpena*, *cataphractus*, and *dracunculus*.

COTULA, in botany, a genus of the *syngenesia-polygamia-superflua* class of plants, the compound flower of which is a little convex, and radiated: the hermaphrodite partial flowers stand on the disk, and are very numerous and tubulose, with the limb divided into four or five segments: the stamina are four very small filaments; and the seeds, contained in the cup, are solitary, and of a trigonal or cordated figure. See plate LIII. fig. 4.

COTULA, or COTYLA, in antiquity, a liquid measure among the Greeks, equal to the hemina of the Romans, containing half a sextary, or four acetabula:

hence it appears that it contained ten ounces of wine, and nine of oil.

It is observed that the *cotula* was used as a dry measure as well as liquid one, from the authority of Thucydides, who in one place mentions two *cotulæ* of wine, and in another two *cotulæ* of bread.

COTURNIX, the QUAIL, in ornithology, a species of tetrao, with the line of the eye-brows white, said to be the least bird of the whole order of the gallinæ. See the article *GALLINÆ*.

It is about the size of the fieldfare, and is esteemed at table.

COTYLA, in anatomy, signifies any deep cavity in a bone, in which any other bone is articulated: but it is generally used to express the acetabulum, or cavity which receives the head of the thigh-bone. It also imports a deep sinus surrounded with large lips.

COTYLEDON, NAVELWORT, in botany, a genus of the *decandria-pentagynia* class of plants, the corolla of which is of a campanulato-tubulated form, slightly divided into five segments which are rolled back; the fruit consists of five oblong, ventricose, acuminate capsules, each formed of a single valve, and opening longitudinally inwards: the seeds are numerous and small. See plate LIV. fig. 6.

COTYLEDONES, in anatomy, are certain glandular bodies, adhering to the chorion of some animals: but no such substances are observable in human bodies, the placenta in the womb supplying the place thereof in women. See the article *PLACENTA*.

COTYTIA, in antiquity, nocturnal festivals in honour of Cotys, or Cotytta, the goddess of wantonness.

COUARD, or COWARD, in heraldry. See the article *COWARD*.

COUCH, in painting, a term used for each lay or impression of colour, either in oil or water, wherewith the painter covers his canvas, wall, wainscot, or other matter, to be painted.

The word is also used for a lay or impression on any thing, to make it more firm and consistent, or to screen it from the weather. Thus, paintings are covered with a couch of varnish; a canvas to be painted must have two couches of size, before the colours are laid on; two or three couches of white lead are laid on wood, before the gold is applied. The leather-gilders lay a couch of water and

whites of eggs on the leather, before they apply the gold or silver leaf.

The gold wire-drawers also use the word couch for the gold or silver leaf, wherewith they cover the mafs to be gilded or silvered. The gilders use the term couch, for the quantity of gold or silver leaves applied on the metals in gilding and silvering.

COUCH, or **WET-COUCH**, in malt-making. See the article **MALT**.

COUCHANT, in heraldry, is understood of a lion, or other beaft, when lying down, but with his head raifed, which diftinguifhes the pofture of couchant from dormant, wherein he is fupposed quite ftretched out and afleep. See plate LIV. fig. 2.

COUCHE', in heraldry, denotes any thing lying along: thus, chevron couché, is a chevron lying fideways, with the two ends on one fide of the fhield, which fhould properly reft on the bafe.

COUCHING of a *Cataract*, in furgery, one of the two chief methods of curing a cataract, by couching with the needle. See the article **CATARACT**.

Under the article cataract, the internal and external remedies for the cure of that diforder, have been prefcribed. Now when recourfe muft be had to couching, the method of treating it is as follows; having placed the patient in a convenient light and pofture, let the other eye be covered to prevent its rolling: then let the fuperior eye-lid of that eye affected be lifted up, and the inferior one deprefsed: this done, ftrike the needle through the tunica conjunctiva, fomething lefs than one tenth of an inch from the corner, even with the middle of the pupil, into the pofterior chamber; and gently endeavour to deprefs the cataract with the flat furface of it. If after it is diflodged it riles again, it muft again and again be pushed down. If it is membranous, after the difcharge of the fluid, the pellicle muft be more broken and deprefsed. If it is uniformly fluid, or exceedingly elastic, they fhould not endanger an inflammation by a vain attempt to fucceed.

Taylor has defcribed a new method of couching the cataract by the needle: he, fecuring the affected eye by a fpeculum oculi, with a knife, biftory, or lancet, makes a longitudinal incifion, through the membranes of the eye, to the vitreous humour, about half a line below the ordinary place: then he directly paffes a

flender plano-convex needle into the eye, through the incifion, with the convex part of it turned upwards, to the inferior part of the cryftalline humour; after which he gently elevates the point of the needle a little, till he perceives a faint refiftance from the cryftalline humour lying above it, and obferves its motions through the pupil. When, from thefe figns, he knows that the apex of the needle is immediately under the capfule of the cryftalline humour, he thrufts it downwards to the bottom, in order to divide the vitreous humour, and prepare a fpace for the reception of the cryftalline humour, which is afterwards to be deprefsed. After this he withdraws about two lines of the needle, and introduces it into the inferior part of the coat of the cryftalline humour, the fiteuation of which he carefully obferves, &c.

Heifter remarks upon Taylor's treatife of couching, that it is fwelled and obfcured with frivolous cautions and circumftances; and that his method of operation is neceffarily followed with excruciating pains, violent inflammations, and a fuppuration of the eye, inftead of recovering the patient's fight.

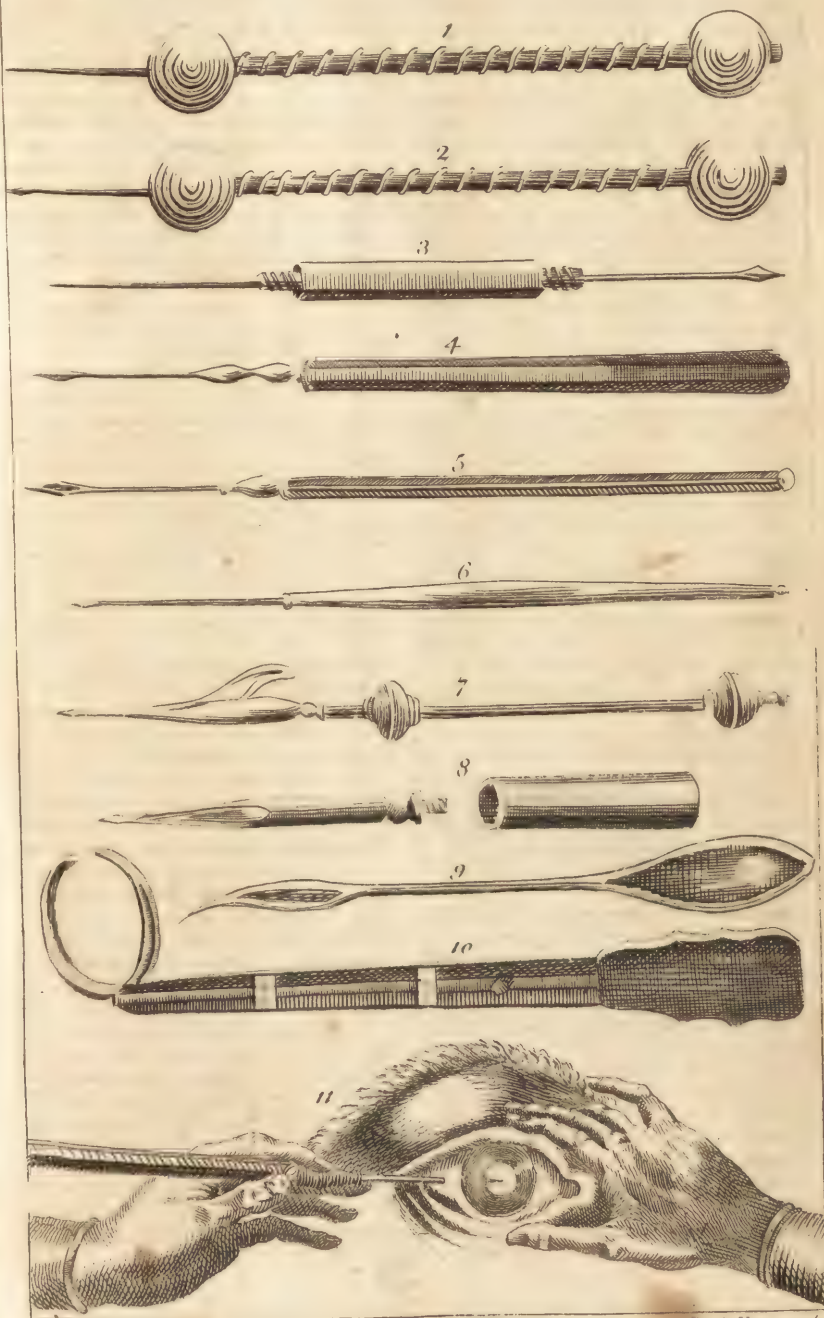
After couching, it is thought proper immediately to defend the eye with a comprefs dipt in fome collyrium, fecured by a handkerchief, that the retina may not be injured by a too ftrong action of the light; and left, by the patient's ftraining his eye too foon, the cataract be elevated again. It will alfo be convenient to bleed the patient a few hours after the operation. With regard to the fubfequent dreffings, it will be convenient to repeat the former four or five times a day. The needles ufed in this operation are reprefented in plate LV. and marked 1, 2, 3, 4, 5, 6, 7, 8, 9. The fpeculum is marked 10, and the method of performing the operation, 11.

COVENANT, a compact or agreement, made between two or more perfons, to perform fomething.

A covenant is either in fact or in law. A covenant in fact, is that which is exprefly agreed on between the parties. In law, it is that covenant which the law intends and implies, though it be not exprefsed in terms: as where a perfon grants a leafe of a houfe, &c. for a certain term, the law will intend a covenant on the leffor's part, that the leffee fhall quietly enjoy the premiffes during the term againft all incumbrances.

There

COUCHING INSTRUMENTS





There is also a covenant real, and a covenant merely personal. A covenant real, is when a person binds himself to pass some real things, as lands or tenements, or to levy a fine of lands, &c. A covenant personal, is when the same is altogether personal; as if a person, by deed, covenants with another to build him a house, or to do him some other service, &c.

COVENANT to stand seized to use, is where a man who has a wife, children, brother, sister, or other kindred, does by deed in writing, under hand and seal, covenant and agree, that for their provision or preferment, he and his heirs shall stand seized of the land to their use, either in fee simple, fee tail, or for life.

COVENTRY, a city and bishop's see in Warwickshire, situated 80 miles north-west of London, and 10 miles north of Warwick: west long. $1^{\circ} 26'$, and north lat. $52^{\circ} 25'$.

The city, and territory about it, makes a county of itself, and sends two members to parliament; and from it the noble family of Coventry takes the title of earl.

COVERDEN, a town of the united provinces, situated in that of Overijssel, near the confines of Westphalia: east long. $6^{\circ} 45'$, and north lat. $52^{\circ} 50'$.

It is a strong fortress, as well by nature as by art, being situated in the marshes.

CO-VERSED SINE, in geometry, the remaining part of the diameter of a circle, after the versed sine is taken from it. See the article **VERSED SINE**.

COVERT, in law, see **COVERTURE**.

COVERT WAY, or **CORRIDOR**, in fortification, a space of ground, level with the field, on the edge of the ditch, three or four fathoms broad, ranging quite round the half moons, and other works toward the country. It has a parapet raised on a level, together with its banquets and glacis. The greatest effort in sieges, is to make a lodgment on the covert-way, because the besieged usually passade it along the middle, and undermine it on all sides.

COVERTURE, in law, is applied to the state and condition of a married woman, who is under the power of her husband, and therefore called *feme covert*; and disabled to contract with any person to the detriment either of herself or husband, without his consent and privity; or allowance and confirmation thereof.

If the husband alien the wife's lands, during the marriage, she cannot gainsay it, while he lives; so that every thing be-

longing to the wife is in the power of the husband, inasmuch that she is said to have no power over her own person, but is also in that sense *sub potestate viri*.

COUGH, *tussis*, in medicine, a convulsive motion of the diaphragm, muscles of the larynx, thorax, and abdomen, violently shaking, and expelling the air that was drawn into the lungs by inspiration.

Of these convulsive and spasmodic disorders there are several kinds, called coughs, proceeding from various causes. If the cause is in the lungs, there is a difficulty of breathing, which is increased upon motion, or agitation of the body or blood: likewise there is often a shrill voice, a pressing pain in the breast, and a hoarseness. If it be dry, and continues long, there are generally hard tubercles, or vomices, full of matter, and the cough is consumptive: but if it be moist, and great plenty of viscid matter brought up, it is a sign there is a great collection of matter in the cavity of the lungs: in this disorder there is a difficulty of lying on the affected side, and pure matter, or matter mixed with blood, is brought up, which leaves no room to doubt that the lungs are affected.

Tussis stomachalis, or a stomach-cough, is sometimes moist, and sometimes dry: if moist, a thick and copious spittle is brought up after meals, generally with vomiting; the cough is more violent after pectorals and sweet things, and is most troublesome in a morning.

In a convulsive or whooping-cough, that is violent and dry, the cause is chiefly in the nervous coats of the stomach, and there is a violent concussion of the thorax, with a deep sound. This is greatly increased after cold drink, or acids. In this obstinate cough, the hypochondria generally are disordered, or there is a scorbutic, or a salt diathesis mixt with the blood; wherefore this cough is not unfrequently attended with a miliary fever. See the article **CHIN-COUGH**.

If there is a thick coagulated mucus in the bronchia, the root of florentine-orris is proper to be taken: or five or six grains of powder of squills, with a little nitre, or precipitated sulphur, flowers of sulphur, and spermaceri. When there is a thin salt defluxion, jellies are proper, and decoctions made with barley, shavings of hartshorn, viper-grass root, and liquorice: or the decoction of turpentine with sugar; and above all things oil of sweet almonds, fresh drawn.

When

When a tussis catarrhalis affects the whole habit of body, with a loss of appetite, and a tabes, the cure must be attempted with asses milk, or whey, or milk with equal parts of Selters water. In a moist, lasting, pituitous cough, the body must be kept open with manna, two ounces, at least, dissolved; to which may be added two drams of terra foliata tartari, and a few drops of oil of anniseed. If the stomach will not bear laxatives, clysters must be used.

When the cough is outrageous, saffron, mixt with bezoardics is very friendly to the breast: nbr are storax-pills, mixt with the aromatic pills, less beneficial. In the *tussis ferina*, or cough of the most violent kind, arising from the striking in of exanthemata, that is, spots or breakings out of the skin, æthiops mineral is an admirable remedy; or flowers of sulphur taken inwardly, in the evening, with diaphoretic antimony: likewise frictions of the feet and pediluvia are more useful to draw serum from the breast than blisters. The patient should, as much as possible, breathe a temperate air, shunning all salted and smoke dried meats, poignant sauces, malt-liquors, and more especially acid wines. The drink should be hydromel, or, if the patient is scorbutic, water alone, the cold being first taken off with toasted bread. The vulgar, not without success, pour hot water upon wheat bran, and drink the infusion cold. As to bleeding in this disease, it is necessary for those who are full of blood. See the article COLD.

Blisters may be used in obstinate cases.

COVIN, among lawyers, a deceitful compact between two or more to deceive or prejudice another person. It is generally used in and about conveyances of land by fine, feoffment, &c. wherein it tends to defeat purchasers of the land they purchase, and creditors of their just debts. It is sometimes made use of in suits at law, and judgments therein had. But wherever covin is, it shall never be intended unless it be particularly found by the jury.

COVING, in building, is when houses are built projecting over the ground-plot, and the turned projecture arched with timber, lathed and plastered.

COVING CORNICHE. See CORNICHE.

COUL, or **COWL**. See the article COWL.

COULTER, in husbandry, an iron instrument, fixed in the beam of a plough, and serving to cut the edge of each furrow. See the article PLOUGH.

COULTER-NEB, in ornithology, the name by which some call a species of duck, smaller than the common kind, and with the beak flattened on both sides.

COUNCIL, or **COUNSEL**, in a general sense, an assembly of divers considerable persons to concert measures relating to the state.

Aulic COUNCIL. See the article AULIC.

Cabinet COUNCIL. See the article *Privy-COUNCIL*, *infra*.

Common-COUNCIL, in the city of London, is a court wherein are made all bye-laws which bind the citizens. It consists, like the parliament, of two houses, an upper, composed of the lord mayor and aldermen; and a lower, of a number of common-council-men chosen by the several wards, as representatives of the body of the citizens.

Privy-COUNCIL, the primum mobile of the civil government of Great Britain, bearing part of that great weight in the government which otherwise would be too heavy upon the king.

It is composed of eminent persons, the number of whom is at the sovereign's pleasure, who are bound by oath to advise the king to the best of their judgment, with all the fidelity and secrecy that becomes their station. The king may declare to, or conceal from, his privy-council whatever he thinks fit, and has a select council out of their number commonly called the *cabinet council*, with whom his majesty determines such matters as are most important, and require the utmost secrecy. All proclamations from the king and the privy-council, ought to be grounded on law, otherwise they are not binding to the subject.

Privy-counsellors, tho' but gentlemen, have precedence of all the knights and younger sons of barons and viscounts, and are stiled right honourable.

COUNCIL of war, an assembly of the principal officers of an army or fleet, occasionally called by the general or admiral to concert measures for their conduct with regard to sieges, retreats, engagements, &c.

In the french polity, councils are very numerous. They have their council of state, council of finances, council of dispatches, council of directions, grand council, council of the regency, council of conscience, &c.

COUNCIL, in church-history, an assembly of prelates and doctors met, for the regulating matters relating to the doctrine, or discipline, of the church.

National COUNCIL, is an assembly of prelates of a nation under their primate or patriarch. See **PRIMATE**, &c.

Oecumenical or general COUNCIL, is an assembly which represents the whole body of the universal church. The romanists reckon eighteen of them; Bullinger, in his treatise de Conciliis, six; Dr. Prideaux, seven; and Bishop Beveridge has increased the number to eight, which, he says, are all the general councils which have ever been held since the time of the first christian emperor. They are as follows. 1. The council of Nice, held in the reign of Constantine the great, on account of the heresy of Arius. 2. The council of Constantinople, called under the reign and by the command of Theodosius the great, for much the same end that the former council was summoned. 3. The council of Ephesus, convened by Theodosius the younger, at the suit of Nestorius. 4. The council of Chalcedon, held in the reign of Martianus, which approved of the Eutychian heresy. 5. The second council of Constantinople, assembled by the emperor Justinian, condemned the three chapters taken out of the books of Theodorus of Mopsuestia, having first decided that it was lawful to anathematize the dead. Some authors tell us, that they likewise condemned the several errors of Origen about the trinity, the plurality of worlds, and the pre-existence of souls. 6. The third council of Constantinople, held by the command of Constantine Pogonatus the emperor, in which they received the definitions of the five first general councils, and particularly that against Origen and Theodorus of Mopsuestia. 7. The second Nicene council. 8. The fourth council of Constantinople, assembled when Lewis II. was emperor of the west. The regulations which they made are contained in twenty-seven canons, the heads of which are set down by Mr. Du Pin, to whom the reader is referred.

Provincial COUNCIL, an assembly of prelates of a province under the metropolitan. See the articles **PROVINCE** and **CONVOCATION**.

COUNSELLOR, in general, a person who advises another: thus we say, a counsellor at law, a privy-counsellor, &c.

COUNSELLOR at law, a person retained by a client to plead his cause in a public court of judicature. He has a privilege to enforce any thing of which he is informed by his client, if the same be pertinent to

the matter in hand, and is not obliged to examine whether it be true or false, it being at the peril of the person who informs him. And notwithstanding counsellors have a special privilege to practise the law, yet they are punishable for misbehaviour by attachment. No counsel is allowed to a prisoner upon a general issue of indictment of felony, unless some point of law arise; for the court is the prisoner's only counsel.

Privy COUNSELLOR. See the article **COUNCIL**, *supra*.

COUNT, comes, a nobleman who possesses a domain erected into a county. The dignity is a medium between that of a duke and a baron. See the article **EARL**. Counts were originally lords of the court, or of the emperor's retinue, and had their name comites a comitando. Eusebius tells us, that Constantine divided them into three classes, of the two first the senate was composed: those of the third had no place in the senate, but enjoyed several other privileges of senators. There were counts that served on land, others at sea; some in a civil, and some in a legal capacity. The quality of count is now no more than a title which a king grants upon erecting a territory into a county, with a reserve of jurisdiction and sovereignty to himself. A count has a right to bear on his arms a coronet adorned with three precious stones, and surmounted with three large pearls, whereof these in the middle, and extremities of the coronet advance above the rest. See **CROWN**.

COUNT, in law, signifies the original declaration of complaint in a real action, as a declaration is in a personal one.

COUNT-WHEEL, in the striking part of a clock, a wheel which moves round once in twelve or twenty-four hours. It is sometimes called the locking wheel. See the article **CLOCK**.

COUNTER, a term which enters into the composition of divers words of our language, and generally implies opposition; but when applied to deeds, means an exact copy kept by the contrary party, and sometimes signed by both parties.

COUNTER ALLEY, in gardening. See the article **ALLEY**.

COUNTER APPROACHES, in fortification, lines and trenches made by the besieged in order to attack the works of the besiegers, or to hinder their approaches.

Line of COUNTER APPROACH, a trench which the besieged make from their covered way to the right and left of the attacks,

attacks, in order to scour the enemies works. This line must be perfectly enfiladed from the covered way and the half moon, that it may be of no service to the enemy, in case he get possession of it.

COUNTER-BARRY, or **CONTRE-BARRE'**, in heraldry, is the same as our bendy sinister per bend counterchanged. See the article **BARRY**.

COUNTER-BATTERY, is a battery raised to play upon another to dismount the guns. See the article **BATTERY**.

COUNTER-BOND, a bond of indemnification, given to one who has given his bond as a security for another's payment of a debt, or the faithful discharge of his office or trust.

COUNTER-BREAST-WORK, in fortification. See **FAUSSE-BRAYE**.

COUNTER-CHANGED, in heraldry, is when any field or charge is divided or parted by any line or lines of partition, consisting all interchangeably of the same tinctures. See plate **LXII. fig. 2. n° 1.**

COUNTER-CHARGE, a reciprocal charge or recrimination brought against an accuser.

COUNTER-CHEVRONED, a shield chevrony, parted by one or more partition lines.

COUNTER-COMPOUND, in heraldry, is when the figure is compounded of two panes, as in plate **LXII. fig. 2. n° 2.**

COUNTER-DEED, a secret writing either before a notary or under a private seal, which destroys, invalidates, or alters a public one.

COUNTER-DRAWING, in painting, is the copying a design, or painting, by means of a fine linen-cloth, an oiled paper, or other transparent matter, where the strokes appearing through are followed with a pencil, with or without colour. Sometimes it is done on glass, and with frames or nets divided into squares with silk or with thread, and also by means of instruments invented for the purpose, as the parallelogram.

COUNTER-ERMINE, in heraldry, is the contrary to ermine, being a black field with white spots. See plate **LXII. fig. 2. n° 3.**

COUNTERFEIT ARCHITECTURE. See the article **ARCHITECTURE**.

COUNTERFEITS, in our law, are persons that obtain any money or goods by counterfeit letters or false tokens, who being convicted before justices of assize, or of the peace, &c. are to suffer such punishment as shall be thought fit to be

inflicted under death, as imprisonment, pillory, &c.

COUNTER-FISSURE. See the article **CONTRA FISSURE**.

COUNTER-FACED, or **CONTRE-FACE'**, in heraldry, is the same that we call barry per pale counterchanged; but then the number of panes into which the field is divided, is always specified. See **BARRY**.

COUNTER-FOIL, or **COUNTER-STOCK**, in the exchequer, that part of a tally which is kept by an officer of the court. See the article **TALLY**.

COUNTER-FORTS, spurs or buttresses, serving as props to a wall subject to bulge or be thrown down.

COUNTER-FUGUE, in music, is when the fugues go contrary to one another. See the article **FUGUE**.

COUNTER-GAGE, in carpentry, a method used in measuring the joints. For example, they transfer the breadth of a mortise to the place in the timber where the tenon is to be, in order to make them fit each other.

COUNTER-GUARD, in fortification, is a work raised before the point of a bastion, consisting of two long faces parallel to the faces of the bastion, making a salient angle: they are sometimes of other shapes, or otherwise situated. See the article **ENVELOPE**.

COUNTER-HARMONICAL. See the article **CONTRA-HARMONICAL**.

COUNTER-INDICATION. See the article **CONTRA INDICATION**.

COUNTER-LIGHT, or **CONTRE-JOUR**, a light opposite to any thing, which makes it appear to disadvantage. A single counter-light is sufficient to take away all the beauty of a fine painting.

COUNTERMAND, in the english law, is where a thing before executed is by some act or ceremony afterwards made void by the party that did it. A countermand may be either actual or implied: actual, where a power to execute any authority is, by a formal writing or deed for that purpose, put off for a time, or made void: implied, when a person makes his last will and testament, whereby he devises his land to such an one, and afterwards conveys the same land to another by feoffment.

COUNTER-MARCH, in military affairs, a change of the face or wings of a battalion, by which means those that were in the front come to be in the rear. It also signifies returning, or marching back again.

COUNTER-

COUNTER-MARK, a mark put upon goods that have been marked before. It is also used for the several marks put upon goods belonging to several persons, to shew that they must not be opened but in the presence of them all or their agents.

In goldsmiths works, the counter-mark is the mark punched upon the work at the hall, to shew that the metal is standard. With horse-jockies, the counter-mark is an artful hole made in the teeth of old horses, to make them pass for horses of six years old. Counter-mark of a medal is a mark added to it a long time after its being struck. It is sometimes an emperor's head, sometimes a cornucopia, &c. Counter-marks are distinguished from the monograms in this, that being struck after the medal, they are indented; whereas the monograms being struck at the same time with the medals, have a little relieve.

COUNTER-MINE, in war, a well and gallery drove and sunk till it meet the enemy's mine, to prevent its effect.

COUNTER MURE, a wall built close to another, that it may not receive any damage from the contiguous buildings.

COUNTER-MURE, in fortification. See the article **CONTRAMURE**.

COUNTER-PALED, *contre-pallé*, in heraldry, is when the escutcheon is divided into twelve pales parted per fesse, the two colours being counterchanged; so that the upper are of one colour, and the lower of another.

COUNTERPART, in music, denotes one part to be applied to another. Thus the bass is said to be a counterpart to the treble. In law, it is the duplicate or copy of any indenture or deed.

COUNTER-PASSANT, is when two lions are in a coat of arms, and the one seems to go quite the contrary way from the other.

COUNTER PLEA, in law, a cross or contrary plea, particularly such as the defendant alleges against a tenant in courtship, or dowry, who prays the king's aid, &c. for his defence.

COUNTER-POINT, in music, the art of composing harmony, or of disposing several parts in such a manner as to make an agreeable whole or a concert. In general, every harmonious composition, or composition of many parts, is called counter point. It took its name from hence: before notes of different measures were invented, the manner of composing was to set prick or points one against another, to denote the several concords.

Counter-point is divided into simple and figurative, agreeably to the division of harmony into the harmony of concords and that of discords.

Simple counterpoint, or the harmony of concords, consists of the perfect as well as the imperfect concords, and may be therefore denominated perfect or imperfect, according as the concords are, whereof it is composed. Thus the harmony arising from a conjunction of any note with its fifth and octave, is perfect; but with its third and sixth, imperfect: notwithstanding this, the composition is perfect; it is the particular concords only, that are called imperfect. Now to dispose the concords, or the natural notes and their octaves, in any key in a simple counterpoint, observe with regard to the distinction into perfect or imperfect harmony, this general rule. To the key to the fourth and to the fifth, perfect harmony must be joined; to the second, third, and seventh, an imperfect harmony is indispensable; to the sixth, either a perfect or imperfect harmony. But when you keep the key, an imperfect harmony is given the sixth. In the composition of two parts, observe, that tho' a third appears only in the treble, or the fourth and the fifth, yet the perfect harmony of the fifth is always supposed, and must be supplied in the accompaniments of the thorough bass to those fundamental notes. For the rules of counterpoint, with regard to the succession of concords, it must be observed, that as much as can be, the parts may proceed by a contrary motion; that is, the bass may descend where the treble ascends and *vice versa*. If in a sharp key the bass descend gradually from the fifth to the fourth, the last in that case must never have its proper harmony applied to it, but the notes that were harmony in the preceding fifth must be continued on the fourth: thirds and fifths may follow one another, as often as one has a mind.

Figurative counterpoint is of two kinds. In one, discords are introduced occasionally as passing notes, serving only as transitions from concord to concord: in the other, the discord bears a chief part in the harmony. See **DISCORD**.

For the first, nothing but concords are to be used in the accented parts of the measure: in the unaccented parts, discords may pass without any offence to the ear. This is called by most authors supposition. See **SUPPOSITION**.

For the second, in which the discords are used as a solid and substantial part of the harmony, the discords that have place are the fifth, when joined with the sixth, to which it stands in relation of a discord; the fourth, when joined with the fifth; the ninth, which is the effect of the second and seventh, and the second and fourth. These discords are introduced into harmony with due preparation, and are to be succeeded by concords, which is called the resolution of discords. Now to introduce discords into harmony, it must be considered what concord may serve for their preparation and resolution. The fifth then may be prepared either by an octave, fifth, or third, and resolved either by third or sixth. The fourth may be prepared in all concords, and may be resolved into the sixth, third, or octave. The ninth may be prepared in all concords except an octave, and may be resolved into third, sixth, and octave. The seventh may be prepared in all concords, and resolved into third, sixth, or fifth. The second and fourth are used very differently from the rest, being prepared and resolved into the bass. See the articles HARMONY, CONCORD, DISCORD, KEY, CLEF, MODULATION, &c.

COUNTER-POINTED, *contre pointé*, in heraldry, is when two chevrons in one escutcheon meet in the points, the one rising as usual from the base, and the other inverted falling from the chief; so that they are counter to one another in the points. They may also be counter-pointed when they are founded upon the sides of the shield, and the points meet that way, called counterpointed in fesse.

COUNTERPOISE, in the manege, is the liberty of the action and seat of a horseman; so that in all the motions made by the horse, he does not incline his body more to one side than to the other, but continues in the middle of the saddle, bearing equally on his stirrups, in order to give the horse the proper and seasonable aids.

COUNTERPOISE is also a piece of metal called by some the pear, on account of its figure, and the mass, by reason of its weight, which sliding along the beam, determines the weight of bodies weighed by the *statera romana*. See the article **BALLANCE**.

COUNTER-POISON, an antidote or medicine which prevents the effects of poison. See the article **POISON**.

COUNTER-POTENT, *contre-potencé*, in heraldry is reckoned a fur as well as vair and ermine, but composed of such pieces as represent the tops of crutches, called in french *potences*, and in old english *potents*.

COUNTER-PROOF, in rolling-press printing, a print taken off from another fresh printed; which by being passed thro' the press gives the figure of the former, but inverted. To counter-prove is also to pass a design in black-lead, or red-chalk, through the press, after having moistened with a sponge both that and the paper on which the counter-proof is to be taken.

COUNTER-QUARTERED, *contre-ecartelé*, in heraldry, denotes the escutcheon, after being quartered, to have each quarter again divided into two.

COUNTER-ROLLS, are the rolls that sheriffs of counties have with the coroners of their proceedings, as well of appeals as of inquests.

COUNTER ROUND, a body of officers going to inspect the rounds.

COUNTER-SALIENT, is when two beasts are borne in a coat leaping from each other directly the contrary way.

COUNTER-SCARP, in fortification, is properly the exterior talus or slope of the ditch; but it is often taken for the covered way and the glacis. In this sense we say, the enemy have lodged themselves on the counter-scarp.

Angle of the COUNTER-SCARP, is that made by the two sides of the counter-scarp meeting before the middle of the curtain.

COUNTER-SIGNING, the signing the writing of a superior in quality of secretary. Thus charters are signed by the king, and countersigned by a secretary of state or lord chancellor.

COUNTER-SWALLOW-TAIL, in fortification, an out-work in form of a single tenaille, wider at the gorge than the head.

COUNTER-TALLY, one of the two tallies upon which any thing is scored.

COUNTER-TENOR, called by the French *haut-contre*, one of the middle parts of music opposite to the tenor. See the article **TENOR**.

COUNTER-TIME, in the manege, is the defence or resistance of a horse that interrupts his cadence, and the measure of his manege, occasioned either by a bad horseman, or by the malice of the horse.

COUNTER-TRENCH, in fortification. See the article **COUNTER-APPROACHES**.

COUNTER-TRIPPING, is when two beasts are borne in a coat in a walking posture, the

the head of the one being next the tail of the other.

COUNTER VALLATION, in the military art, a ditch made round a besieged place, to prevent the garrison from making sallies. See **CONTRAVALLATION**.

COUNTER-WORKING, the raising of works to oppose those of the enemy.

COUNTER is also the name of a counting-board in a shop, and of a piece of metal with a stamp on it, used in playing at cards.

COUNTER of a horse, that part of a horse's forehead which lies between the shoulders and under the neck.

COUNTERS in a ship, are two. 1. The hollow arching from the gallery to the lower part of the straight piece of the stern, is called the upper counter. 2. The lower counter is between the transom and the lower part of the gallery.

COUNTER is also the name of two prisons in the city of London, *viz.* the Poultry and Woodstreet.

COUNTORS, such serjeants at law as a person retains to defend his cause, and speak for him in any court for their fees; being antiently called serjeant-counters.

COUNTING, or **ACCOUNTING**. See the article **ACCOUNTING**.

COUNTRY, among geographers, is used indifferently to denote either a kingdom, province, or lesser district. But its most frequent use is in contradistinction to town: thus it is said, that such a man went down into the country.

Among miners, the term countries is an appellation given to works under ground. See the article **MINE**.

COUNTRY-WAKE. See **WAKE**.

Fast COUNTRY, or **SHELF**. See the article **SHELF**.

COUNTRY, in geography, originally signified the territory of a count or earl, but now it is used in the same sense with shire. See the article **SHIRE**.

England, for the better government thereof, and the more easy administration of justice, is divided into fifty-two counties, each whereof is subdivided into rapes, lathes, wapentakes, hundreds; and these again into tythings. For the execution of the laws in the several counties, excepting Cumberland, Westmoreland, and Durham, every Michaelmas term officers are appointed, called sheriffs: other officers of the several counties are lord-lieutenants, custodes rotulorum, justices of the peace,

bailliffs, high constables, coroner, clerks of the market, &c.

Of the fifty-two counties in England and Wales, there are four termed counties-palatine, *viz.* Lancaster, Chester, Durham, and Ely: these counties are reckoned among the superior courts, and are privileged as to pleas, so that no inhabitant of such counties shall be compelled by any writ to appear, or answer the same, except for error, and in cases of treason, &c.

The counties-palatine of Durham and Chester are by prescription, where the king's writs ought not to come, but under the seal of the counties palatine, unless it be a writ of proclamation. There is a court of chancery in the counties-palatine of Lancaster and Durham, over which there are chancellors. See the article **CHANCELLOR**.

Scotland is divided into thirty-three counties, the government of which is committed to sheriffs. See **SHERIFF**.

COUNTY-CORPORATE, a title given to several cities on which the english monarchs have thought proper to bestow extraordinary privileges, annexing to them a particular territory of land, or jurisdiction as the county of Middlesex, annexed to the city of London, the county of the city of York, the county of the city of Bristol, &c.

COUNTY-COURT, a court of justice, held every month in each county, by the sheriff or his deputy. See **COURT**.

This court has the determination of debts and trespasses under forty shillings.

COUP DE BRIDE, in the manege, the same with ebrillade. See **EBRILLADE**.

COUPED, *coupé*, in heraldry, is used to express the head, or any limb, of an animal, cut off from the trunk, smooth; distinguishing it from that which is called erassed, that is, forcibly torn off, and therefore is ragged and uneven.

COUPED is also used to signify such crosses, bars, bends, chevrons, &c. as do not touch the sides of the escutcheon, but are, as it were, cut off from them.

COUPER, **COWPER**, or **COOPER**, the name of two towns of Scotland, the one situated about twelve miles north-east of Perth, in the shire of Angus, west long. 3°, and north lat. 56° 30'; and the other in the county of Fife, about ten miles west of St. Andrews: west long. 2° 40', and north lat. 56° 20'.

COUPLE-CLOSS, in heraldry, the fourth part of a chevron, never borne but in pairs,

except there be a chevron between them, faith Guillim, though Bloom gives an instance to the contrary.

COUPLET, a division of a hymn, ode, song, &c. wherein an equal number, or equal measure, of verses is found in each part; which division, in odes, are called strophes. See the article **STROPHE**.

Couplet, by an abuse of the word, is frequently made to signify a couple of verses.

COURANT, or **CURRENT**, in a general sense, expresses the present time, as we say, the year 1763 is the current year; the 20th day of this current month, that is, this present year and month.

COURANT, in a commercial sense, any thing that has a course, or is received in commerce; as the courant coin, &c. also the ordinary and known price of goods, &c. in which sense we say, the price courant.

COURANT, in music and dancing, is used to express the air and tune, and the dance to it.

With regard to music, courant is a piece of musical composition in a triple time, and is ordinarily noted in a triple of minims, the parts to be repeated twice.

It begins and ends when he, who beats the measure, falls his hand with a small note before the beat; in contradistinction from the saraband, which ordinarily ends when the hand is raised.

With regard to dancing, it consists of a time, a step, a balance, and a couplee; admitting also of other motions.

COURIER, a messenger sent post, or express, to carry dispatches. See **POST**.

Couriers are distinguished into four kinds, viz. those on horseback, those in chariots, those in boats, and those on foot; which last kind is used in Italy, Turkey, and Peru: they were called by the Greeks *bemerodromi*: several of the ancient writers mention, that some of these would go thirty, thirty-six, and, in the circus, even forty leagues a day; but it does not appear, that either the Greeks or Romans had any regular couriers till the time of Augustus.

COURLAND, a dutchy situated between 21° and 26° of east longitude, and between 56° 30', and 57° 30' north latitude. It is bounded by the river Dwina, which divides it from Livonia, on the north; by Lithuania, on the east; by Samogitia, on the south; and by the Baltic sea, on the west, being 130 miles long, and 30 broad.

It is usually reckoned a part of Poland; but it is to be observed, that the Courlanders not only elect their own princes, but are governed by their own laws. Its Capital is Mitau.

COURSE, in navigation, that point of the compass, or horizon, on which the ship steers: or the angle between the rhumb-line and the meridian. See the articles **SAILING**, **RHUMBLINE**, and **MERIDIAN**.

COURSE, in architecture, a continued range of stones, level, or of the same height throughout the whole length of the building, without being interrupted by any aperture.

COURSE of plinths, the continuity of a plinth of stone, or plaster, in the face of a building, to mark the separation of the stones.

COURSES, in a ship, the mainsail and foresail: when the ship sails under them only, without lacing on any bonnets, she is then said to go under a pair of courses. To sail under a main course and bonnets, is to sail under a mainsail and bonnet.

COURSE is used for a collection or body of laws, canons, or the like. As, the civil course is the collection of the roman law compiled by order of Justinian: canonical course, the collection of the canon law, made by Gratian. See the articles **CIVIL-LAW** and **CANON LAW**.

COURSE is also made to express the elements of an art, explained either by experiment or writing.

COURSE is also applied for the time spent in learning the elements of a science: as a student is said to go through his courses of philosophy, divinity, mathematics, &c. at the university.

COURSE of the moon. See **MOON**.

Complement of the COURSE. See the article **COMPLEMENT**.

COURSE of a river. See **RIVER**.

COURSING, among sportsmen, is of three sorts, viz. at the deer, at the hare, and at the fox. These coursings are with greyhounds; for the deer there are two sorts of coursings, the one with the paddock, the other, either in the forest, or purlieu. See the article **PADDOCK**, &c.

In coursing the hare, the best way is to find one sitting, and when she is first started, to give her ground, or law, which is generally twelve-score yards. In coursing a fox, you are to stand close, and on a clear wind.

COURT, *curia*, in a law sense, the place where judges distribute justice, or exercise

cise jurisdiction: also the assembly of judges, jury, &c. in that place.

Courts are divided into superior and inferior, and into courts of record and base courts: again, courts are either such as are held in the king's name, as all the ordinary courts, or where the precepts are issued in the name of the judge, as the admiral's court.

The superior courts are those of the king's bench, the common-pleas, the exchequer and the court of chancery. See the articles KING'S BENCH, COMMON-PLEAS, EXCHEQUER, and CHANCERY. A court of record, is that which has a power to hold plea, according to the course of the common law, of real, personal, and mixt actions; where the debt or damage is forty shillings, or above, as the court of king's bench, &c.

A base court, or a court not of record, is where it cannot hold plea of debt, or damage, amounting to forty shillings, or where the proceedings are not according to the course of the common law, nor inrolled; such as the county-court, courts of hundreds, court-baron, &c.

The rolls of the superior courts of record are of such authority, as not to admit of any proof against them, they being only triable by themselves: but the proceedings of base courts may be denied, and tried by a jury. Some of the courts may fine, but not imprison a person, such as the leet; and some can neither fine nor inflict punishment, and can only amerce, as the county-court, court-baron, &c. But the courts of record at Westminster-hall, have power to fine, imprison, and amerce; and in those courts the plaintiff need not shew, in his declaration, that the cause of action arises within their jurisdiction, being general; though, in inferior courts, it must be shewed at large, on account they have particular jurisdictions.

COURT of admiralty. See ADMIRALTY-Court.

COURT of arches. See ARCHES.

COURT of attachment. See the article ATTACHMENT.

COURT of augmentation. See the article AUGMENTATION.

COURT BARON, a court that every lord of a manor has within his own precincts. This court must be held by prescription, and is of two kinds, viz. by common law, and by custom: the former is where the barons or freeholders, being suitors, are the judges: the other is, that where

the lord, or his steward, is the judge.

COURT of chivalry, or the *marshal's COURT*, that whereof the judges are the lord high constable, and the earl marshal of England.

This court is the fountain of martial law, and the earl marshal is not only one of the judges, but is to see execution done. See the article CHIVALRY.

COURT of conscience, a court in the cities of London, Westminster, and some other places, that determines matters in all cases, where the debt or damage is under forty shillings.

COURT of delegates, a court where delegates are appointed by the king's commission, under the great seal, upon an appeal to him from the sentence of an archbishop, &c. in ecclesiastical causes; or of the court of admiralty, in any marine cause.

COURT of hustings, a court of record held at Guildhall, for the city of London, before the lord mayor and aldermen, sheriffs and recorder, where all pleas real, personal, and mixt, are determined; where all lands, tenements, &c. within the said city, or its bounds, are pleadable in two hustings; the one called the hustings of plea of lands, and the other the hustings of common pleas. The court of hustings is the highest court within the city, in which writs of exigent may be taken out, and out-lawries awarded, wherein judgment is given by the recorder. To the lord mayor and city of London belong several other courts, as the court of common-council, consisting of two houses, the one for the lord mayor and aldermen, and the other for the commoners; in which court are made all by-laws, which bind the citizens. The chamberlain's court relates to the rents and revenues of the city, to the affairs of servants, &c. See CHAMBERLAIN.

To the lord mayor belongs the court of coroner and escheator; another court for the conversation of the river of Thames; another of gaol delivery, held eight times a year at the Old Baily, for the trial of criminals, where the lord mayor himself is the chief judge.

There are also other courts called ward-motes, or meetings of the wards; and courts of halymote, or assemblies of the guilds and fraternities.

COURT-LEET, a court ordained for the punishment of offences under high treason against the crown.

COURT-MARTIAL, a court appointed for the

the punishing offences in officers, soldiers, and sailors, the powers of which is regulated by the mutiny-bill.

COURT of piepowder. See the article **PIEPOWDER COURT**.

COURT of requests, was a court of equity, of the same nature with the chancery, but inferior to it. It was chiefly instituted for the relief of such petitioners as in conscionable cases addressed themselves to his majesty: the lord privy-seal was the chief judge of this court.

COURT of the lord steward of the king's house. See the article **STEWARD**.

COURT of the star-chamber. See the article **STAR CHAMBER**.

COURT of the university. See **UNIVERSITY**.

Bishop's COURT.

Christian COURT.

County COURT.

Dutchy COURT.

Honour COURT.

Lawless COURT.

See the articles
BISHOP.
CHRISTIAN.
COUNTY.
DUTCHY.
HONOUR.
LAWLESS.

Prerogative COURT, &c. See the article **PREROGATIVE, &c.**

COURT is also an appendage to a house or habitation, consisting of a piece of ground, inclosed with walls, but open at top.

The court before the house is called the fore-court, and that behind, the back-court.

COURT is also used for the palace or place where a king or sovereign prince resides.

COURTAIN, or CURTIN. See **CURTIN**.

COURTENAI, a town of the isle of France, about fifty-five miles south-east of Paris: east long. 3° , and north lat. 48° .

COURTESY, or CURTESY of England, a certain tenure whereby a man marrying an heiress seized of lands of fee simple, or fee tail general, or seized as heir of the tail special, and getteth a child by her that cometh alive into the world, tho' both it and his wife die forthwith; yet if she were in possession, he shall keep the land during his life, and is called *tenant per legem Angliæ*, or tenant by the courtesy of England; because this privilege is not allowed in any country except Scotland, where it is called *curialitas Scotiæ*.

COURTISAN, a woman who prostitutes herself for hire, especially to people of superior rank.

The Venetians, who had expelled the courtisans their city, were obliged to recall them, to provide for the security of women of honour, and to prevent the nobles from meddling too much in affairs of state.

COURTRAY, a town of the austrian Netherlands, situated on the river Lys, about twenty-three miles south-west of Ghent, and fourteen east of Ypres: east long: $3^{\circ} 10'$, and north lat. $50^{\circ} 48'$.

COUSIN, a term of relation between the children of brothers and sisters, who in the first generation are called cousin-germans, in the second generation, second cousins, &c. If sprung from the relations of the father's side, they are denominated paternal cousins; if on the mother's, maternal.

Before the time of Theodosius, there was no law, ecclesiastical or civil, to prohibit the marriage of cousin-germans: under the reign of that emperor they were forbidden, but allowed again in the next reign, and under Justinian, who fixed the allowance in the body of his laws, but still the canons continued the prohibition, and extended it to a greater degree.

COUSIN is also an honorary title bestowed by kings on peers, princes of the blood, cardinals, and distinguished persons in the state.

COUSINAGE, or COSENAGE. See the article **COSENAGE**.

COUSSINET, in architecture, the stone that crowns a piedroit, or pier, the under side of which is level, and the upper curved to receive the first spring of an arch or vault. It is also the face on the side of the volutes in the ionic capital, which the french artists call balustre and oreiller.

COUSU, in heraldry, signifies a piece of another colour or metal placed on the ordinary, as if it were sewed on, as the word imports. This is generally of colour upon colour, or metal upon metal, contrary to the general rule of heraldry.

COUTANCES, a port-town and bishop's see in Normandy, in France, about 100 miles west of Rouen: west long. $1^{\circ} 32'$, and north lat. $49^{\circ} 10'$.

COUTRAS, a town of Guienne, in France, about twenty miles north-east of Bourdeaux: west long. 16° , and north lat. $45^{\circ} 5'$.

COVERT, in heraldry, denotes something like a piece of hanging, or a pavillion falling over the top of a chief or other ordinary, so as not to hide but only to be a covering to it.

COW, in zoology, the female of the ox-kind. See the articles **BOS** and **OX**.

The marks of a good cow, according to some, are these: the forehead should be broad,

broad, the eyes black, the horns large and clean, and the neck long and straight. The belly also should be large and deep, the thighs thick, the legs round, with short joints, and the feet broad and thick. As to colour, the red cow is said to give the best milk, and the black to bring forth the best calves; but the cow that gives milk longest, is the most beneficial both for breeding and profit; and the most proper time to calve in, is March or April. Before calving, she should be put into good pasture, or, if it happen in winter, should be well fed with hay; and the day and night after she has calved, her drink should be a little warmed. See the articles CALF, MILK, BUTTER, CHEESE, &c.

SEA-COW, in zoology, the same with the thrichecus. See THRICHECUS.

COW-ITCH, in botany, the english name of the hairy phaseolus. See PHASEOLUS.

COWSLIP, *primula veris*, in botany. See the article PRIMULA.

COWSLIP of Jerusalem, the same with the pulmonaria of authors. See the article PULMONARIA.

COWARD, in heraldry, a term given to a lion borne in an eschutcheon with his tail doubled, or turned in between his legs.

COWES, a town and harbour on the northern coast of the isle of Wight, situated about eight miles south of Portsmouth: west long. $1^{\circ} 25'$, and north lat. $53^{\circ} 45'$.

COWL, or **COUL**, a habit worn by the bernardines, and benedictines, of which there are two kinds, one white, very large, worn in ceremonies; the other black, worn on ordinary occasions in the streets, &c. The author of the apology of the emperor Henry IV. distinguishes two forms of cowls, the one a gown reaching to the feet, having sleeves and a capuchin; the other a kind of hood to work in, called a scapulary, because it only covers the head and shoulders.

COWPER, or **COUPER**, in geography. See the article COUPER.

COWRING, in falconry, a term used when a young hawk quivers and shakes her wings in token of obedience to the old ones.

COXÆ OSSA, in anatomy, called also ossa innominata. See INNOMINATA.

COXSWAIN, or **COCK-SWAIN**, in the sea-language. See COCK-SWAIN.

COXWOLD, a market-town in the north riding of Yorkshire, about fourteen miles north of the city of York: west long. $50'$, and north lat. $54^{\circ} 20'$.

COZUMEL, an island near the western coast of Yucatan, where Cortez landed and refreshed his troops, before entering upon the conquest of Mexico: west long. 89° , and north lat. 13° .

CRAB, in zoology, the english name of the short-tailed squillæ, more usually called cancers, or cancri. See the articles CANCER and SQUILLA.

CRAB'S CLAWS, *chela cancerorum*, in the materia medica, are the tips of the claws of the common crab broken off at the verge of the black part, so much of the extremity of the claws only being allowed to be used in medicine as is tinged with this colour. The blackness however is only superficial: they are of a greyish white within, and when levigated, furnish a tolerably white powder.

Crab's claws are of the number of the alkaline absorbents, but they are superior to the generality of them in some degree, as they are found on a chemical analysis to contain a volatile urinous salt. They are always kept in the shops levigated to a fine powder, and are sometimes prescribed singly, tho' rarely, because of their want of the beautiful white colour of some of the others. They are the basis, however, of the famous gascoign powder, the lapis contrayerva, and many other of the compound sudorific powders.

CRAB'S EYES, *oculi cancerorum*, in pharmacy, are a strong concretion in the head of the cray-fish. They are rounded on one side, and depressed and sinuated on the other, considerably heavy, moderately hard, and without smell. We have them from Holland, Muscovy, Poland, Denmark, Sweden, and many other places, some of them probably taken out of the heads of the animals, but the far greatest part picked up on the shores of the Baltic, and of other seas, and large rivers. They pay $9\text{ }^{\frac{3}{4}}\text{d.}$ the pound on importation, and draw back $8\text{ }^{\frac{1}{4}}\text{d.}$ on exportation.

Crab's eyes are much used both in the shop-medicines and extemporaneous prescriptions, being accounted not only absorbent and drying, but also discussive and diuretic. Fictitious and adulterated crab's eyes are sometimes sold by impostors, who prepare them of tobacco-pipe clay; but the fraud is easily detected, because they want the lamellated contexture of the others, which is discovered in calcining them, and are heavier than those of the genuine kind.

CRAB, an engine of wood, with three claws, placed

placed on the ground like a capstan, and used at launching, or heaving ships into the dock. See plate LVIII. fig. 2.

CRABRO, the **HORNET**, in zoology, makes a species of apis. See the articles **APIS** and **HORNET**.

CRACKER, in ornithology, the english name of a species of duck, called also the sea-pheasant, and the *anas caudacuta*. See the article **ANAS**.

It is about the size of the common widgeon.

CRACOW, by some accounted the capital city of Poland, is situated in the province of little Poland, and palatinate of Cracow, in a fine plain near the banks of the Vistula.

It has an university, and is the see of a bishop, and the seat of the supreme courts of justice: it stands about 140 miles south-west of Warsaw, in $19^{\circ} 30'$ of east long. and 50° north lat.

CRADLE, a well known machine in which infants are rocked to sleep.

It denotes also that part of the stock of a crossbow where the bullet is put.

CRADLE, in surgery, a case in which a broken leg is laid after being set.

CRADLE, among shipwrights, a timber frame made along the outside of a ship by the bilge, for the convenience of launching her with ease and safety. See plate LVIII. fig. 3.

CRAFT, in the sea-language, signifies all manner of nets, lines, hooks, &c. used in fishing. Hence all such little vessels as ketches, hoys, and smacks, &c. used in the fishing trade, are called small craft.

CRAIL, or **CAREIL**, a parliament-town of Scotland, situated on the sea-coast of the county of Fife, about seven miles south-east of St. Andrews: west long. $2^{\circ} 20'$, and north lat. $56^{\circ} 17'$.

CRAION, or **CRAYON**. See **CRAYON**.

CRAMBE, *wild SEA-CABBAGE*, in botany, a genus of the tetradynamia filiquosa class of plants, the flower of which is tetrapetalous and cruciform: the fruit is a roundish capsule, with one cell and two valves, containing a single roundish seed. This plant is used as an aliment like other cabbage, when very young, but is esteemed more hot and dry. Dale tells us the leaves heal wounds, and discuss inflammations and other tumours.

CRAMP, in medicine, a convulsive contraction of a muscular part of the body, being either natural, as in convulsive constitutions, or accidental, from living in cold places, under ground, &c. It

affects all parts indifferently, But the ham, calves, feet and toes, oftener than the arms and hands: it is seldom mortal, tho' its returns are often, quick, and continuance long, with great pain and distension of some vessels, as appears from the knots and ganglions it occasions. If it be natural, observe the cure as in an epilepsy or convulsions; if accidental, it is removed by rubbing the part affected.

CRAMP-FISH, the english name of the torpedo. See the article **TORPEDO**.

CRAMP-IRON, or **CRAMPS**, a piece of iron bent at each end, which serves to fasten together pieces of wood, stones, or other things.

CRAMPONE'E, in heraldry, an epithet given to a cross which has at each end a cramp or square piece coming from it; that from the arm in chief towards the sinister angle, that from the arm on that side downwards, that from the arm in base towards the dexter side, and that from the dexter arm upwards. See plate LXII. fig. 3.

CRAMPOONS, pieces of iron hooked at the ends for the pulling up of timber, stones, &c.

CRANAGE, the liberty of using a crane at a wharf, and also the money paid for drawing up wares out of a ship, &c. with a crane. See the article **CRANE**.

CRANE, in ornithology, the english name of the *grus*. See the article **GRUS**.

In plate LVI. fig. 2. are represented two tall and stately crowned african cranes, which, when their heads are raised, seem more than a yard in height.

CRANE, in mechanics, a machine used in building and commerce for raising large stones and other weights.

A crane is an instrument of such general use, that we cannot avoid giving its description at large. It is of two kinds; in the first, only the gibbet moves upon the axis; and in the second kind, called the rat-tailed crane, the whole crane with its load turns upon a strong axis.

The first sort of crane is represented plate LVII. fig. 1. seen in profile. **LB ED**, is a section of that part of the wharf on which it is fixed, **LB** being the horizontal line. **AC** is a strong horizontal piece of timber making the upper part of the crane, into which are framed the three upright pieces **X**, **Y**, **Z**, with its cill **IE**, and braces **HI** and **BE**. To the above-mentioned horizontal piece is fastened, with strong iron pins, a short piece **pp**, having a bell-metal collar to receive the iron

Fig. 1. CROWFEET.



Fig. 2.

CROWNED AFRICAN CRANES.







iron pivot of the upright shaft R F, which is an axis in peritrochio, whose lower end is also of iron, turning in another bell-metal collar let into the firm piece of wood F. This upright wooden axle with its bars *e, f, b*, is called the capstane of the crane, and the rope R r r, which goes first over the pully T, then between the pullies P and Q, and lastly over the pully r, has at its ends a double iron hook called a ram's head, to which the goods W to be craned up are fastened. The gibbet G V B is moveable upon its axis C B, so that when the weight is raised up sufficiently high, it may be easily brought from over the ship or barge to any carriage on the wharf to the right or left of the piece Z. N° 2. shews the plane of the upper part of the crane, where we are to observe the position of the pullies P and Q, and of the place of the center of the gibbet, which must be at C, in a line touching the circumference of both pullies; because if the center of the motion of the gibbet were in a line with the center of the pullies, the loaded gibbet would require a force to bring its end *g* over the wharf, and that force ceasing to act, the weight and gibbet would turn back, and rest over W.

This crane is very expeditious with many hands, it being always requisite that some should stand at the bars to keep the weight from running down again, which might be of dangerous consequence.

The rat-tailed crane, which is represented *ibid.* n° 3. is not only useful on a wharf to crane up heavy goods, but also of great service, in building, to raise great stones, and bring them round to any destined place. It consists of the following parts. On the cross ground cills L L L L L L is fixed by oblique braces the strong upright piece K called the gudgeon of the crane, on whose spindle S, sometimes made wholly of iron, the whole machine turns, being easily moved when it is charged with its load H. C A is the counter wheel with its axis D B, bearing only on the iron ends of the said axis in two hanging perpendicular pieces at B and *b*; *f F* is the brace and ladder whose top F carries the pully above the weight, the other pullies being in the ends of the pieces M, N, E. The power is sometimes applied by means of a rope on the outer circumference of the wheel A, but most commonly men, a horse, or an ass, turn the wheel round by walking in it,

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Various improvements have been made on the rat-tailed crane: thus, in plate LVIII. fig. 1. n°. 1. is represented one with a double axis in peritrochio, and two handles, whereby four men may raise very great weights; and being capable of turning about upon the upright shaft, may be fixed in any position to let them down into barges, boats, or the like. It differs from the preceding one, not only as the long neck is here of one piece, but the power differently applied. Here too the many accidents that happen by the carelessness of workmen, are prevented by a peculiar contrivance: A B (*ibid.* n°. 2.) is the great wheel, moveable on the center pin *a*, by means of handles fixed at C to the lesser or pinion-wheel, upon the axis of which is the catchet-wheel D *d*: the teeth of this last wheel successively receive the iron catch F *f* (moveable on a pin F on the standard G, and occasionally raised by the upright iron H *b*) to hinder the weight from going back when the handles are loosened. Upon the same axis, and behind the wheel D *d*, is a wooden wheel E *e*, over which stands the half ring of iron O P *o*, with a groove in it to fit the circumference of the said wheel, so as to regulate the motion of the pinion C, and consequently of the great wheel A B, and rope V A. The lever K L regulates all these motions; for when the string Q q K is pulled, this lever, moveable on its center M, raises the piece H *b* by a horizontal pin at I, whereby the catch F *f* is freed from the teeth: hence a strong pull by the guider at Q, stops the whole motion, and a more gentle one regulates the descent.

Chimney CRANE, a kitchen utensil for hanging a pot, or the like, on; and being moveable, wafts it off and on the fire at pleasure. See plate LVIII. fig. 4.

For the principles by which cranes act, see the articles **AXIS** in **PERITROCHIO**, **PULLEY**, &c.

CRANE is also a name given to the siphon. See the article **SIPHON**.

CRANE'S BILL, among surgeons, a kind of forceps, so called from its figure.

CRANE'S BILL, in botany, the english name of the geranium. See **GERANIUM**.

CRANE-LINES, in a ship, are lines going from the upper end of the sprit-sail top-mast, to the middle of the fore-stays. They serve to keep the sprit-sail-top-mast upright and steady in its place, and to strengthen it.

CRANGANOR, a dutch factory on the Malabar

Malabar-coast, in the hither India, about thirty miles north of Cochín: east long. $75^{\circ} 5'$, and north lat. 10° .

CRANIOLARIA, in botany, a genus of the didynamia-angiospermia class of plants, the flower of which consists of one unequal petal: the pericarpium is coriaceous, ovated, acute on both sides, and bivalvular: the fruit is a woody depressed nut, acuminate on both sides, and marked with dentated furrows.

CRANIUM, in anatomy, denotes the skull. See the article **SKULL**.

CRANK, a contrivance in machines, in manner of an elbow, only of a square form, projecting from a spindle, and serving by its rotation, to raise and fall the pistons of engines.

CRANK, likewise denotes the iron support for a lantern, or the like; also the iron made fast to a stock of a bell for ringing it.

In the sea-language, a ship is said to be crank sided when she can bear but small sail, for fear of over-setting; and when a ship cannot be brought on the ground without danger, she is said to be crank by the ground.

CRANNY, in glass-making, an iron instrument wherewith the necks of glasses are formed.

CRAPE, in commerce, a kind of stuff, made in the manner of gauze, with raw silk, gummed and twisted on the mill.

CRAPULA, among physicians, the same with surfeit. See **SURFEIT**.

CRASIS, among physicians, is used to signify such a due mixture of qualities in a human body, as constitutes a state of health.

CRASIS, in grammar, the contraction of two letters into one long one, or a diphthong. Thus *αλθεα* is contracted into *αλθη*.

CRASPEDARIA, in zoology, a genus of animalcules, without any tail or limbs, but with an apparent mouth, and a series of fimbriae round it in the manner of a fringe: some species of craspedaria are roundish, others oval, and others cylindric.

CRASSAMENTUM, in physic, the thick red, or fibrous part of the blood, otherwise called cruor, in contradistinction to the serum, or aqueous part. See the article **BLOOD**.

CRASSENA, a term used by Paracelsus, to express that in saline, putrescative and corrosive particles, which produce ulcers and tumours.

CRASSIROSTRÆ, a name given to the sparrow, and the like birds, on account of their short and thick beaks.

CRASSULA, in botany, a genus of the pentandria-pentagynia class of plants, the flower of which is of the infundibuliform shape, composed of five petals, with long, linear, straight, connivent unguis: the fruit is composed of five oblong, acuminate, straight, compressed capsules, opening longitudinally inwards; the seeds are numerous and small.

CRATÆGUS, in botany, a genus of plants belonging to the icosandria-digynia class, the flower of which consists of five roundish, concave, sessile petals, inserted into the cup; the fruit is a fleshy, roundish, umbilicated berry, containing two distinct nearly oblong, cartilaginous seeds. The fruit of this plant is astringent and binding, and is commended in fevers attended with a diarrhoea.

CRATCHES, in the manege, a swelling on the pastern, under the fetlock, and sometimes under the hoof; for which reason it is distinguished into the finew cratches, which affect the finew, and those upon the coronet, called quitter-bones.

CRATER, in astronomy, a constellation of the southern hemisphere, consisting of 7 stars, according to Ptolemy's catalogue, of 8 in Tycho's, and 11 in the Britannic catalogue.

CRATER, in falconry, a line on which hawks are fastened when reclaimed.

CRATEVA, in botany, a genus of the polyandria-monogynia class of plants, the flower of which consists of four ovated petals, bent upwards towards the same side, and furnished with small unguis of the length of the cup; the fruit is a fleshy, globose, very large berry, with one cell, containing several roundish, emarginated, nidulatory seeds.

CRATICULA, a kind of gridiron, or chemical instrument, made of square pieces of iron, of the thickness of one's finger, placed in acute angles, about half a finger's space distant from one another. It serves in making fires to keep up the coals.

CRATO, a town of Alentejo, in Portugal, situated about seven miles south of Portalegre: west long. 8° , and north lat. $38^{\circ} 50'$.

CRAVEN, in geography, a division of the west riding of Yorkshire, situated on the river Aire.

CRAVEN, or **CRARENT**, in our old customs,

toins, a term of reproach, used in trials by battle. The law was, that the victory should be proclaimed, and the vanquished acknowledge his fault, in the presence of the people; or pronounce the word *Cravent* in the name of recreantice, or cowardice, &c. and presently judgment to be given; and the recreant *amittere legem terræ*, i. e. become infamous.

CRAW, or **CROP** of birds, ingluvies. See the article **INGLUVIES**.

CRAX, in ornithology, a genus of birds, of the order of the gallinæ, the characters of which are, that they have four toes on each foot, and their head is ornamented with a crest, or crown of feathers bending backwards. To this genus belong, 1. The black crax, or indian cock, with a black and white crest. 2. The black indian cock, with a black crest. 3. The spotted crax, or indian cock, with a black crest.

CRAY, a distemper in hawks, proceeding from long feeding upon cold stale meat.

CRAY-FISH, the english name of the larger long-tailed squillæ. See **SQUILLA**.

CRAYER, a small kind of ship, mentioned in our old statutes.

CRAYON, a name for all coloured stones, earths, or other minerals used in designing or painting in pastel. Crayons may be made of any colour, and adapted for the faces of men, women, landscapes, clouds, sun-beams, buildings, and shadows, in the following manner. Take plaister of Paris, or alabaster calcined, and of the colour of which you intend to make your crayons, a sufficient quantity: grind them first asunder, and then together, and with a little water make them into a paste: then roll them with your hand upon the grinding stone into long pieces, and let them dry moderately in the air: when they are to be used, scrape them to a point like a common pencil.

CREAM, the fat part of milk that swims upon the surface. See **MILK**.

CREAM of Tartar, called also crystals of tartar, in pharmacy, a preparation of tartar perform'd in the following manner. Take any quantity of crude tartar, boil it in water, till the parts which are capable of solution be entirely dissolved; filter the liquor whilst hot through a flannel bag, into an earthen pan, and evaporate till a pellicle appears, then set it in a cold place, and suffer it to stand quietly two or three days: afterwards decant the fluid, and the crystals

will be found adhering to the pan; scrape them off, and evaporate the fluid as before, and set it again to chrySTALLISE, and repeat the operation till all the chrySTALS are formed. Cream of Tartar is a gentle purge. It attenuates and resolves tough humours, and is good against obstructions of the viscera, and in cachectic complaints. It is also a good adjunct to chalybeate medicines.

CREAT, in the manege, an usher to a riding-master; or, a gentleman bred in the academy, with intent to make himself capable of teaching the art of riding the great horse.

CREATION, the producing something out of nothing, which strictly and properly is the effect of the power of God alone, all other creations being only transformations, or change of shape. Creation (says the schoolmen) from no pre-existing subject, may be understood in different senses. 1. That is said to be created out of no pre-existing matter, in the production of which no matter is employed, as an angel. 2. Although matter may be employed in the production of a thing, it may be so produced as that both its matter and form are caused by the same agent at the same time. In this manner were the heavens and earth created in the opinion of those who deny that God made the chaos. 3. Although matter may be the subject in producing a thing, yet that thing may not depend on matter either with respect to its future or present existence. Such is the human soul, for although it is created in pre-existing matter, it is not created out of pre-existing matter, but of nothing, and therefore is no ways dependent on matter for existence. See the article **WORLD**.

Epocha of the CREATION. See **EPOCHÆ**.

CREATION, in the romish church, the reproduction of the humanity of Jesus Christ in the eucharist, by the words of the consecration.

CREDENTIALS, letters of recommendation, and power, especially such as are given to ambassadors, or public ministers, by the prince or state that sends them to foreign courts.

CREDIBILITY, a species or kind of evidence, less indeed than absolute certainty or demonstration, but greater than mere possibility: it is nearly allied to probability, and seems to be a mean between possibility and demonstration. See the article **EVIDENCE**.

CREDIT, in commerce, a mutual trust or loan of merchandise, or money, on the reputation of the probity and sufficiency of a dealer:

Credit is either private or public.

Every considerable trader ought to have some estate, stock, or portion, of his own, sufficient to carry on the traffic he is engaged in: they should also keep their dealings within the extent of their capital, so that no disappointment in their returns, may incapacitate them to support their credit: yet traders of worth and judgment may sometimes lie under the necessity of borrowing money for the carrying on their business to the best advantage; but then the borrower ought to be so just to his own reputation, and to his creditors, as to be well assured, that he has sufficient effects within his power, to pay off his obligations in due time: but if the trader should borrow money to the extent of his credit, and launch out into trade, so as to employ it with the same freedom as if it was his own proper stock, such a way of management is very precarious, and may be attended with dangerous consequences. Merchants ought never to purchase their goods for exportation upon long credit, with intent to discharge the debt by the return of the same goods, for this has an injurious influence upon trade several ways; and if any merchant has occasion to make use of his credit it should always be for the borrowing of money, but never for the buying of goods: nor is the large credit given to wholesale traders a prudential or justifiable practice in trade.

The public credit of a nation is said to run high, when the commodities of that nation find a ready vent, and are sold at a good price, and when dealers may be safely trusted with them; also when lands and houses find ready purchasers; and money is to be borrowed at low interest: when people think it safe and advantageous to venture large stocks in trade, and when notes, mortgages, &c. will pass for money.

CREDIT, was antiently a right which lords had over their vassals, consisting herein, that, during a certain time, they might oblige them to lend them money.

CREDITON, a market-town in Devonshire, considerable for a good woollen manufactory: it is situated about 9 miles north-west of Exeter, in 3° 50' west long. and 50° 50' north lat.

CREDITOR, a person to whom any sum of money is due, either by obligation, promise, or otherwise. See **DEBT**.

Creditors shall recover their debts of executors or administrators, that waste or convert to their use the estate of the deceased. The laws of the twelve tables, which were the foundation of the roman jurisprudence, permitted the creditor to tear or cut his debtor to pieces, in case he proved insolvent.

CREDITOR, in book-keeping. See the article **BOOK-KEEPING**.

CREED, a brief summary of the articles of a christian's belief.

The most antient form of creeds is that which goes under the name of the apostolic creed; besides this, there are several other antient forms, and scattered remains, of creeds to be met with in the primitive records of the church. The first is a form of apostolical doctrine, collected by Origen; the second is the fragment of a creed, preserved by Tertullian; the third remains of a creed, is in the works of Cyprian; the fourth, a creed composed by Gregory Thaumaturgus, for the use of his own church; the fifth, the creed of Lucian the martyr; the sixth, the creed of the apostolical constitutions. Besides these scattered remains of the antient creeds, there are extant some perfect forms, as those of Jerusalem, Caesarea, Antioch, &c.

The most universal creeds are the apostolical, the athanasian, and the nicene creeds.

CREEK, the part of a haven where any thing is landed from the sea.

It is defined by some to be a shore, or bank, on which the water beats, running in a small channel from any part of the sea.

CREEPER, in ornithology, a name given to several species of ispida, called in english the ox-eye. See the article **ISPIDA**.

The black, white, and red indian creeper is a curious little bird, figured of its natural bigness in plate XLV. fig. 2. Its upper side is of a deep black, spotted with scarlet; the whole under part of the body is white; only the legs, feet, and claws are black.

CREEPER, at sea, a sort of grapnel, but without flocks, used for recovering things that may be lost over-board. See plate LVIII. fig. 5.

CRENGLES, among seamen, small ropes spliced into the bolt-ropes of the sails of the main-mast, and fore-mast, into which

Fig. 1. IMPROVED CRANE.

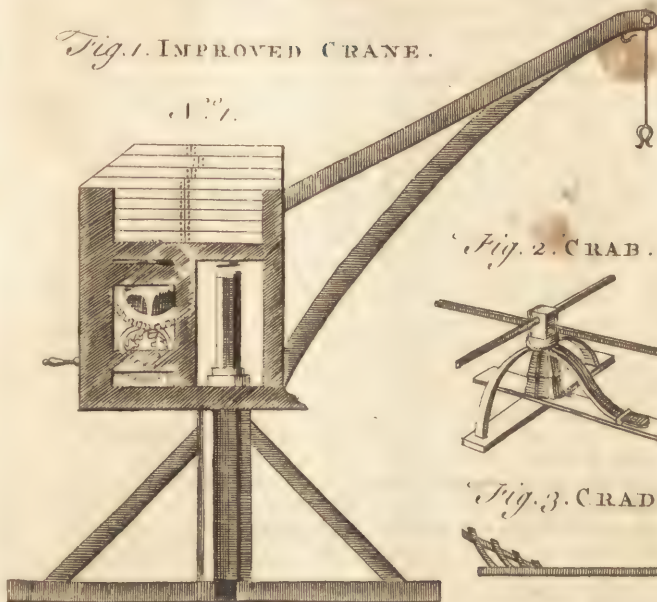


Fig. 2. CRAB.

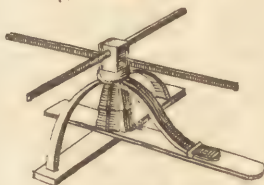


Fig. 3. CRADLE.



Fig. 4. CHIMNEY-CRANE.

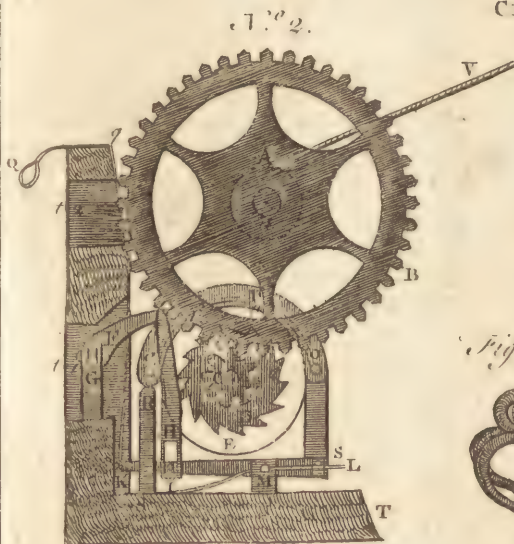


Fig. 5. CREEPER.



Fig. 6. CROTCHES.





which the bowling bridles are made fast.

CREMA, a city and bishop's see of Italy, capital of a district of the Milanese, called from it Cremasco: it stands almost in the middle between Milan and Mantua, in $10^{\circ} 15'$ east long. and $45^{\circ} 20'$ north lat.

CREMASTER, in anatomy, the name of a muscle of the testicle, of which there is one on each side.

It arises fleshy from the lowest and fore-part of the os ilium, and upper part of the ligamentum pubis: its fibres running parallel with those of the oblique ascenders, and almost encompassing the process of the peritonæum, descends with it, and is inserted into the tunica vaginalis, upon which it spreads in several distinct portions.

CREMONA, a city of Italy, and capital of a district of the Milanese, called from it the Cremonese, is situated forty-five miles south-east of Milan, in $10^{\circ} 30'$ east longitude, and 45° north latitude.

CRENATED, among botanists, is said of leaves, the edges of which are furnished with indentings, contiguous to each other, and neither inclining toward the point nor base. Of these some are acute, others obtuse, &c. as represented in plate LIII. fig. 5.

CRENCLES, in a ship, small ropes, spliced into the bolt-ropes of the sails of the main-mast and fore-mast. They are fastened to the bow line-bridles; and are also to hold by, when a bonnet is shaken off.

CRENELLE, or **IMBATTLED**, in heraldry, is used when any honourable ordinary is drawn, like the battlements on a wall to defend men from the enemies shot. See plate LXII. fig. 4.

CRENOPHYLAX, in antiquity, a magistrate at Athens, who had the inspection of fountains.

CREPANCE, in the manege, a chop, or crutch, in a horse's leg, given by the spunges of the shoes of one of the hinder feet, crossing and striking against the other hinder foot. This crutch degenerates into an ulcer.

CREPIS, in botany, a genus of the syn-genesia-polygamia class of plants, the compound flower of which is uniform and imbricated; and the proper ones monopetalous, linear, truncated, and divided into five indentures; the stamina are five very short capillary filaments; and the seed is oblong, solitary, and crowned with long down, being inclosed

in a roundish cup, that serves instead of a pericarpium.

CREPUNDIA, in antiquity, a term used to express such things as were exposed along with children, as rings, jewels, &c. called by the greeks *πρεπονδια*, serving as tokens whereby they afterwards might be known; or as helps to defray the charges of breeding and educating them.

CREPUSCULUM, the **TWILIGHT**, in astronomy and optics. See **TWILIGHT**.

CRESCENT, *crecens*, the new moon, which, as it begins to recede from the sun, shews a little rim of light, terminating in points, called horns, that are still increasing, till it is in opposition to the sun, at which time it is full moon, or quite round.

CRESCENT, in heraldry, a bearing in form of a new moon. See plate LVII. fig. 4. It is used either as an honourable bearing, or as the difference to distinguish between elder and younger families; this being generally assigned to the second son, and those that descend from him. The figure of the crescent is the turkish symbol, with its points looking towards the top of the chief, which is its most ordinary representation, called crescent montant. Crescents are said to be adossed, when their backs are turned towards each other; a crescent is said to be inverted, when its points look towards the bottom; turned crescents have their points looking to the dexter-side of the shield; cornuted crescents to the sinister side, and affronted crescents, contrary to the adossed, have their points turned to each other.

CRESCENT is also an order of knights, instituted by Renatus of Anjou, king of Sicily, about the year 1448, so called, from the badge of this order, which was an enamelled crescent of gold.

CRESCENT, a term among farriers. Thus a horse is said to have crescents when that part of the coffin bone which is most advanced falls down and presses the sole outwards, and the middle of her hoof above shrinks, and becomes flat, by reason of the hollownels beneath it.

CRESCENTIA, in botany, a genus of the didynamia-angiospermia class of plants, whose corolla consists of a single petal, gibbous and unequal; the tube is also gibbous; the limb erect, and divided into five segments. The fruit is an oval, hard berry, containing a single cell: the seeds are numerous, subcordated, nidulated, and containing two cells.

CRESS,

CRESS, or **CRÉSSES**, in botany, the english name of the lepidium. See the article **LEPIDIUM**.

Indian CRESS, the english name of the cardaminum, or troæolum of botanists. See the article **TROÆOLUM**.

Sciatica-CRESS, the same with cardamine. See the article **CARDAMINE**.

Water, or **Winter-CRESS**, the same with the sisymbrium. See **SISYMBRIUM**.

CRESSY, a town of Picardy in France, about forty-four miles south of Calais, and twenty-seven north-west of Abbeville, remarkable on account of the victory obtained there over the French, by Edward III. of England, in the year 1346: east long. 2°, and north lat. 50° 20'.

CREST, in armoury, the top part of the armour for the head, mounting over the helmet, in manner of a comb, or tuft of a cock, deriving its name from *crista*, a cock's comb.

The crest was for the most part made of feathers, or the hair of horses tails or manes. The soldiers took great pride in adorning them. In most of the old monuments we find the crest represented, not much unlike those on the tops of our modern head-pieces: but whatever the common soldiers had, those of the officers were usually wrought in gold or silver, and the plumes of a larger size, quite across the helmet; and some wore two, or three, or four together of these plumes.

CREST, in heraldry, the uppermost part of an armoury, or that part of the cask or helmet next to the mantle. Guillim says, the crest, or cognizance, claims the highest place, being seated on the most eminent part of the helmet; yet so as to admit of an interposition of some escrol, wreath, chapeau, crown, &c.

The crest is esteemed a greater mark of nobility, than the armoury; being borne at tournaments, to which none were admitted till such time as they had given proof of their nobility: sometimes it serves to distinguish the several branches of a family; and it has served, on occasion, as a distinguishing badge of factions: sometimes the crest is taken for the device; but more usually is formed of some piece of the arms. Families that exchange arms do not change their crest.

CREST, among carvers, an imagery, or carved work, to adorn the head, or top of any thing, like our modern corniche.

CREST-FALLEN, a fault of an horse, when

the upper part of his neck, called the crest, hangs to one side: this they cure by placing it upright, clipping away the spare skin, and applying plasters to keep it in a proper position.

CRESTED, something furnished with a crest. See the article **CREST**.

CRETA, **CHALK**, in natural history. See the article **CHALK**.

CREUX, a french term used among artists, and literally signifies a hollow cavity, or pit, out of which something has been scooped or dug: whence it is used to signify that kind of sculpture, where the lines and figures are cut and formed within the face or plan of the plate, or matter engraved; and thus it stands in opposition to relieve, where the lines and figures are embossed, and rise prominent above the face of the matter engraved on.

CREW, the company of sailors belonging to a ship, boat, or other vessel. The sailors that are to work and manage a ship, are regulated by the number of lasts it may carry, each last making two tun. The crew of a Dutch ship, from forty to fifty lasts, is seven sailors and a swabber; from fifty to sixty lasts, the crew consists of eight men and a swabber; and thus encreases at the rate of one man every ten lasts. English and french crews are usually stronger than dutch, but always in about the same proportion. There are in a ship several particular crews, or gangs, as the gun-room crew, the carpenter's crew, &c.

CREX, in ornithology, a species of ortygometra, known in different parts of the kingdom, by the names darker-hen, and corn-crake. See **ORTYGOMETRA**. From its note *crex, crex*, the name *crex*, as well as *corn-crake*, are evidently derived: it is frequent in corn-fields.

CRANCE, or **CREANCE**, among sportsmen, a fine packthread fastened to a hawk's breast, when she is first lured.

CRIB, a frame of wood wherein moist things, particularly salt, as it is taken out of the boiling-pan, are put to drain.

CRIBBAGE, a game at cards, wherein no cards are to be thrown out, and the set to make sixty-one; and as it is an advantage to deal, by reason of the crib, it is proper to lift for it, and he that has the least card deals.

There are only two players at this game, wherein the cards are dealt out one by one, the first to the dealer's antagonist, and the next to himself; and so on, till each

each have five; the rest being set down in view on the table.

This done, the dealer lays down the two best cards he can for his crib; and his antagonist lays down the other two, the very worst in his hand, by reason the crib is the property of the dealer. They next turn up a card from the parcel left after dealing, and then count their game thus: any fifteen upon the cards is two; as king and five, ten and five, nine and six, eight and seven, &c. A pair is also two; a pair royal, or three aces, kings, &c. six; a double pair royal, or four aces, &c. twelve. Sequences of three cards, as, four, five, and six, is three; sequences of four, four; five, five, &c. and the same holds of a flush. Knave noddly, or of the suit turned up, is one in hand, and two to the dealer. If, after the cards for the crib are laid out, you have in your hand a nine and two sixes, that makes six; because there is two fifteens, and a pair: and if a six chance to be turned up, then you have twelve in your hand, *viz.* the pair royal, and three fifteens. These are to be marked with pegs, counters, or otherwise. If you happen to have sequences, as of four, five, and six in your hand, and six be the turned up card, they are counted thus: first, the sequences in your hand make two; and the sequences of the four and five in your hand, added to the six turned up, make other two: there is likewise two fifteens, counting first with the six in your hand, and then with that turned up.

This done, the antagonist to the dealer plays first, suppose a six; and if the dealer can make it fifteen, by playing nine, he gains two; otherwise they play on, and he that reaches thirty-one exactly, or comes nearest under it, gains one. Here too, in playing of the cards, you may make pairs, pairs-royal, flushes, &c. which are all counted as above.

As to the crib, it is the dealer's, who may make as many as he can out of them, together with the card turned up; counting as above: if he can make none, he is said to be bilked.

Thus they play and deal by turns, till the game of sixty-one is up; and if either of the gamesters reach this before the other is forty-five, this last is said to be lurkt, and the other gains a double game.

CRIBRATION, in pharmacy, the passing any substance through a sieve, or searce,

in order to separate the finer particles from the grosser, whether the body be dry and reduced to powder, or moist as the pulps of seeds, fruits, or roots.

CRIBROSUM os, in anatomy, called also os ethmoides, and os cribiforme, a bone situated internally in the fore part of the basis of the skull. The uses of it are to be a principal part of the organ of smelling, and to give a very great extent to the pituitary membrane in a small compass.

CRIBRUM BENEDICTUM, among ancient physicians, an imaginary membrane of the kidneys, by which they pretended the serum was percolated or strained, and the good blood left behind.

CRICETUS, in zoology, an animal of the moule or rat-kind, with an elongated tail, and variegated with reddish brown, black, and grey. See the article **MUS**.

CRICK, among farriers, is when a horse cannot turn his neck any manner of way, but holds it fore right, insomuch that he cannot take his meat from the ground without great pain. The cure is to thrust a sharp hot iron through the flesh of the neck in several places, at three inches distance, and rowel all of them, with horse-hair, flax, or hemp, anointing the rowels with hog's grease.

CRICKET, the name of an exercise or game with bats and balls. The laws of this game, as settled by the cricket-club in 1744, and played at the artillery-ground, London, are as follow.

The pitching the first wicket is to be determined by the cast of a piece of money. When the first wicket is pitched, and the popping-crease cut, which must be exactly three feet ten inches from the wicket, the other wicket is to be pitched directly opposite at twenty-two yards distance, and the other popping-crease cut three feet ten inches before it. The bowling-creases must be cut in a direct line from each stump. The stumps must be twenty-two inches long, and the bail six inches. The ball must weigh between five and six ounces. When the wickets are both pitched, and all the creases cut, the party that wins the toss up may order which side shall go in first, at his option.

The laws for the bowlers. Four balls and over. The bowler must deliver the ball with one foot behind the crease, even with the wicket, and when he has bowled one ball, or more, shall bowl to the number four before he changes wickets; and he shall change but once in the same innings.

innings. He may order the player that is in at his wicket to stand on which side of it he pleases at a reasonable distance. If he delivers the ball with his hinder foot over the bowling-crease, the umpire shall call no ball, though she be struck, or the player is bowled out, which he shall do without being asked, and no person shall have any right to ask him.

Laws for the strikers, or those that are in.

If the wicket is bowled down, it is out. If he strikes or treads down, or he falls himself upon the wicket in striking, but not in over-running, it is out. A stroke or nip over or under his bat, or upon his hands, but not arms, if the ball be held before she touches ground, though she be hugged to the body, it is out. If in striking, both his feet are over the popping-crease, and his wicket put down, except his bat is down within, it is out. If he runs out of his ground to hinder a catch, it is out. If a ball is nipped up, and he strikes her again wilfully before she come to the wicket, it is out. If the players have crossed each other, he that runs for the wicket that is put down, is out; if they are not crossed, he that returns is out. If in running a notch, the wicket is struck down by a throw before his foot, hand, or bat is over the popping-crease, or a stump hit by the ball, though the bail was down, it is out. But if the bail is down before, he that catches the ball must strike a stump out of the ground-ball in hand, then it is out. If the striker touches or takes up the ball before she is lain quite still, unless asked by the bowler or wicket-keeper, it is out.

Bat, foot, or hand over the crease. When the ball has been in hand by one of the keepers or stoppers, and the player has been at home, he may go where he pleases till the next ball is bowled. If either of the strikers is crossed in his running ground designedly, which design must be determined by the umpires. *N. B.* The umpires may order that notch to be scored. When the ball is hit up, either of the strikers may hinder the catch in his running ground, or if she is hit directly across the wickets, the other player may place his body any where within the swing of the bat, so as to hinder the bowler from catching her: but, he must neither strike at her, nor touch her with his hands. If a striker nips a ball up just before him, he may fall before his wicket, or pop down his bat before

she comes to it, to save it. The bail hanging on one stump, though the bail hit the wicket, it is not out.

Laws for the wicket-keepers. The wicket-keepers shall stand at a reasonable distance behind the wicket, and shall not move till the ball is out of the bowler's hand, and shall not by any noise incommode the striker; and if his hands, knees, foot, or head be over, or before the wicket, though the ball hit it, it shall not be out.

Laws for the umpires. To allow two minutes for each man to come in when one is out, and ten minutes between each hand. To mark the ball that it may not be changed. They are sole judges of all outs and ins, of all fair or unfair play, of all frivolous delays, of all hurts, whether real or pretended, and are discretionally to allow what time they think proper before the game goes on again. In case of a real hurt to a striker, they are to allow another to remain, and the person hurt to come in again; but are not to allow a fresh man to play on either side on any account. They are sole judges of all hindrances, crossing the players in running, and standing unfair to strike; and, in case of hindrance, may order a notch to be scored. They are not to order any man out, unless appealed to by one of the players. Those laws are to the umpires jointly.

Each umpire is the sole judge of all nips and catches, ins and outs, good or bad runs, at his own wicket, and his determination shall be absolute, and he shall not be changed for another umpire without the consent of both sides. When the four balls are bowled, he is to call over. These laws are separately.

When both umpires call play three times, it is at the peril of giving the game from them that refuse to play.

CRICKET, in zoology, the english name of the gryllus. See GRYLLUS.

Mole-CRICKET, the same with the gryllo-talpa. See the article GRYLLO-TALPA.

CRICKLADE, a borough-town of Wiltshire, situated on the river Isis, about twenty-six miles south-west of Oxford: west longitude $1^{\circ} 55'$, and north latitude $51^{\circ} 35'$.

It sends two members to parliament.

CRICOARYTANOIDEUS, in anatomy, a name given to two muscles of the larynx, called the cricoarytænoides posticum, and the lateral cricoarytænoides. They serve to dilate the glottis. See the article LARYNX.

CRI.

CRICOIDES, in anatomy, a cartilage of the larynx, called also the annular cartilage. It occupies the lowest part by way of base to the rest of the cartilages; and to the lower part of it the *aspera arteria* adheres.

CRICO THYROIDÆUS, in anatomy, one of the five proper muscles of the larynx, which arise and terminate in it. It serves occasionally either to dilate, or constrict the glottis.

CRIM, or **CRIM-TARTARY**, a peninsula in the black sea, between 33° and 37° east long. and between 44° and 46° north lat. It is joined to Little Tartary by a narrow isthmus.

The prince of this country, called Cham, or Ham, is subject to the Turks; being obliged to furnish 30,000 men, whenever the grand signior takes the field.

CRIME, *crimen*, the transgression of a law, either natural or divine, civil or ecclesiastic.

Civilians distinguish between *crimen* and *delictum*. By the first, they mean capital offences, injurious to the whole community, as murder, perjury, &c. the prosecution of which was permitted to all persons, though no ways immediately interested. By the latter, they understand private offences committed against individuals, as theft, &c. By the laws, no body was allowed to prosecute in these, except those interested.

With us, crimes are distinguished into capital, as treason, murder, robbery, &c. and common, as perjuries, &c.

Again, some crimes are cognizable by the king's judges, as the above-mentioned; and others are only cognizable in the spiritual courts, as simple fornication.

Quasi CRIME. See *QUASI CRIME*.

CRIMNOIDES, or **CRIMOIDES**, among physicians, a term sometimes used for the sediment of urine, resembling bran.

CRIMSON, one of the seven red colours of the dyes.

To dye a lively crimson: First wet the goods well, and for every pound of stuff to make the suds, use two ounces and a half of tempered aqua fortis, and three ounces and half of tartar, an ounce and half of cochineal, and eight ounces of alum. Boil the goods with all these for half an hour, let them cool, and rinse them out. To finish the dye, boil four ounces of cochineal, three ounces of starch, three ounces of white-wine tartar, and half an ounce of white arsenic together.

ther for a quarter of an hour, then put in the goods and let them boil for above half an hour, or till they have taken the dye well and equally.

CRINONES, among physicians, small worms that breed in the skin, called also *dracunculi*. See *DRACUNCULI*.

They mostly infect the muscular parts, as the back, shoulders, legs, and thighs. They occasion a troublesome itching, and are to be destroyed with a mercurial lotion.

CRINUM, in botany, a genus of the hexandria-monogynia class of plants, the flower of which is infundibuliform and monopetalous: the fruit is a subovate capsule, with three cells, containing several seeds.

CRISIS, in medicine, is used in different senses, both by the antient and modern physicians. With some it means frequently no more than the excretion of any noxious substance from the body. Others take the word for a secretion of the noxious humours made in a fever. Others use it for the critical motion itself; and Galen defines a crisis in fevers, a sudden and instantaneous change, either for the better or the worse, productive of recovery or death. The doctrine of crises is very obscure; however the following are reckoned the principal symptoms of an approaching crisis, a sudden stupor, drowsiness, waking, delirium, anxiety, dyspœna, grief, redness, titillation, nausea, heat, thirst, &c. after digestion, and about the critical time; and the symptoms and effects of a present crisis are after the preceding ones, a vomiting, looseness, thick sediment in the urine, bleeding at the nose, hæmorrhoids, sweat, abscesses, pustules, tumours, buboes, &c.

CRISP LEAF, among botanists, is one folded over and over, at the edges, which are always serrated, dentated, or lacerated. It is otherwise called curled. See plate LXIV. fig. 3.

CRISTÆ, in surgery, a term for certain excrescences about the anus and pudenda. See the article *CONDYLOMA*.

CRISTA GALLI, in anatomy, a process of the os ethmoides, making the upper part of the septum narium. It takes its name from the supposed resemblance to the comb of a cock. See *CRIBROSUM OS*.

CRITERIUM, a standard by which propositions and opinions are compared, in order to discover their truth or falshood.

CRITHE, in surgery, commonly called the styte, is a tubercle that grows in different

ferent parts of the eyelids. When it is small it comes only on the edge of the eyelids, or very near it, between the cilia; but when it is large it spreads towards the middle of the lid. The cure of this disease must be varied according as the eye is attended with an inflammation, or is hardened and concreted.

For a more particular account of the nature, and the treatment proper in the cure of this disorder, see the article *STYE*.

CRITHMUM, *SAMPHIRE*, in botany, a genus of the pentandria-digynia class of plants, the universal flower of which is uniform; the proper one consists of five ovated, inflexed, and nearly equal petals: there is no pericarpium: the fruit is oval, compressed, and separable into two parts: there are two elliptical compressed-plane seeds, striated on one side. Samphire is more used as a pickle, than for any medicinal purposes. However, it is supposed to strengthen the stomach, provoke urine, and open obstructions of the bowels.

CRITHOMANCY, a kind of divination performed by considering the dough or matter of cakes, offered in sacrifice, and the meal strewed over the victim to be killed.

CRITICAL DAYS and **SYMPTOMS**, among physicians, are certain days and symptoms in the course of acute diseases, which indicate the patient's state, and determine him either to recover or grow worse. A careful observation of these days is of the greatest use towards the cure of diseases, lest mischief be done by unseasonable assistance from art, as when a physician endeavours to expel that which is not prepared to be evacuated, or else hinders the evacuation of such humours, as, being subdued and concocted, endeavour to escape by some convenient outlet. According as the violence of the disease is more swift or slow, the critical days will be more or less distant from each other: thus in fevers which do not exceed the space of three weeks, the quaternary or septennary days are critical; and besides these, there are in the two first weeks many more incidentally critical days, as the third, fifth, sixth, &c. But if an acute disease extends itself beyond three weeks, then the quaternary days no more take place as critical, but only the septennary days are so, though the efficacy of these last is likewise abolished after the fortieth day. See the article *CRISIS*.

CRITICISM, the art of judging with propriety concerning any discourse or

writing. Though the use of the word is ordinarily restrained to literary criticism, we may distinguish divers other branches of this art, as, 1. Philosophical criticism, the art of judging of the hypotheses and opinions of philosophers. 2. Theological criticism, the art of judging of explanations of doctrines of faith. 3. Political criticism, the art of judging of the means of governing, acquiring, and preserving states. 4. Grammatical criticism, the art of interpreting the words of an author, &c. Lord Bacon divides criticism, first, as it regards the exact correcting and publishing of approved authors, by which the honour of such authors is preserved, and the necessary assistance afforded to the reader: yet the misapplied labours and industry of some have in this respect proved highly prejudicial to learning; for many critics have a way, when they fall upon any thing they do not understand, of immediately supposing a fault in the copy, and hence it happens that the most corrected copies are often the least corrected. 2. As it respects the explanation and illustration of authors by notes, comments, collections, &c. But here an ill custom has prevailed, of skipping over the obscure passages, and expatiating upon such as are sufficiently clear: as if the design was not so much to illustrate the author, as to take all occasions of shewing their own learning and reading. It were therefore to be wished, says the noble author, that every original writer who treats an obscure subject, would add his own explanation to his own work, and thus prevent any wrong interpretation by the notes of others. 3. There belongs to criticism a certain concise judgment or censure of the authors published, and a comparison of them with other writers, who have treated the same subject. In short, the art of criticism, though reckoned by some as a distinct part of philosophy, is in truth nothing else than a more correct and accurate knowledge in the other parts of it; and a readiness to apply that knowledge upon all occasions, in order to judge well of what relates to these subjects, to explain what is obscure in authors, to supply what is defective, and amend what is erroneous in manuscripts or antient copies, to correct the mistakes of authors and editors in the sense or the words, to reconcile the controversies of the learned, and by these means to spread a juster knowledge of the beautiful passages and solid reasoning of authors,

among

among the inquisitive part of mankind.

CRIZZELING is said of glass, which, by reason of too great a proportion of nitre, tartar, or borax, is scabrous or rough on the surface.

CROATIA, a frontier province of Germany, bounded by Sclavonia on the north and east, by Bosnia on the south, and by Carniola on the west.

It is subject to the house of Austria.

CROCCEUS, or **HOAMEO**, a large river of China, which, after a course of two thousand miles, falls into the bay of Nankin; it is sometimes called the Yellow river, on account of the slime of this colour, with which its waters are tinged.

CROCHES, among hunters, the little buds growing about the tops of a deer or hart's horns.

CROCI, among botanists, the same with antheræ. See the article **ANTHERÆ**.

CROCIA, the same with crozier. See the article **CROSIER**.

CROCINUM, among physicians, denotes the oil of saffron, said to be of a heating quality, and to procure sleep; whence it is frequently used in phrenesies: it is also a suppurative, and deterges ulcers.

CROCODES, an appellation given to patils or troches, whereof crocus, or saffron, is the principal ingredient.

CROCODILE, *crocodylus*, in zoology, a species of lizard, with a two-edged tail and triangular feet, the fore ones having five, and the hinder only four toes. See the article **LIZARD**.

This animal is the largest of the lizard-kind, growing to twenty-five feet in length, and about the thickness of a man's body. It is a native of the torrid zone, frequenting salt-water rivers, where it lies concealed among the reeds or rushes, till it finds an opportunity to seize men or other animals, which it drags into the water, always taking this method of drowning them first, that it may afterwards swallow them without resistance: its general food, however, is fish. The Africans and Indians eat its flesh, which is white, and of a kind of perfumed flavour.

CROCUS, **SAFFRON**, in botany, a genus of the triandria-monogynia class of plants, the flower of which consists of one petal, divided into six oval, oblong, and equal segments; and its fruit is a trilocular capsule, consisting of three valves, and containing a number of roundish seeds. See plate LIV. fig. 8.

For the culture of saffron, its different

preparations, medicinal virtues and other uses, see the article **SAFFRON**.

CROCUS, in chemistry, denotes any metal calcined to a red or deep yellow colour: thus we meet with *crocus martis aperiens* & *astringens*, or the aperient and astringent crocuses of iron; also with the *crocus veneris*, or copper calcined to such a reddish powder.

The aperient crocus of iron is thus made: expose a quantity of iron filings to the open air, in the spring, till they are perfectly converted into a reddish dust; or, mix equal quantities of iron filings and sulphur into a paste, and calcine this over the fire till the sulphur is burnt away; the remaining red powder is called *crocus martis aperiens cum sulphure*. Both these are recommended in obstructions, and may be given in ten grains for a dose; but the first is esteemed the best.

The astringent crocus of iron is made by exposing iron filings to air, and sprinkling them at times with vinegar, till they are almost converted into rust; after which they are exposed to a strong reverberatory fire, till they become of a deep purple colour. This powder is found a good medicine in hæmorrhages and fluxes, the dose being from ten to thirty grains; and the best way of administering it is in a bolus or pills.

The crocus of copper is otherwise called *æsustum*. See the article **ÆS**.

CROCUS METALLORUM, an emetic preparation of antimony and nitre, thus made: take an equal quantity of each, powder them separately, then mixing them well together, throw the mixture by degrees into a red hot crucible, where it is to remain till melted thoroughly: this, after being separated from the scoriae, is to be kept for use. By boiling this crude crocus, first reduced to a fine powder, in water, and afterwards washing it with more hot water, till it comes off insipid, is obtained the washed crocus of antimony, for the virtues of which see the article **ANTIMONY**.

CROFT, a little close adjoining to a dwelling house, and enclosed for pasture or arable land, or any other particular use.

CROISADE, **CRUSADE**, or **CRUZADO**, a name given to the expeditions of the christians against the infidels, for the conquest of Palestine; so called because those who engaged in the undertaking wore a cross on their cloaths, and bore one on their standard.

This expedition was also called the holy war,

war, to which people flocked in great numbers out of pure devotion, the pope's bulls and the preaching of the priests of those days making it a point of conscience. The several nations engaged in the holy war were distinguished by the different colours of their crosses: the English wore white, the French red, the Flemish green, the Germans black, and the Italians yellow. From this enterprize several orders of knighthood took their rise. They reckon eight croisades for the conquest of the holy land: the first begun in the year 1095, at the solicitation of the greek emperor and the patriarch of Jerusalem.

CROISES, or **CROIZES**, in english antiquity, pilgrims bound for the holy land, or such as had been there; so called from a badge they wore in imitation of a cross. The knights of St. John of Jerusalem, created for the defence and protection of pilgrims, were particularly called croisets: and so were all those of the english nobility, gentry, &c. who, in the reigns of Henry II. Richard I. Henry III. and Edward I. were *cruce signati*, that is, devoted for the recovery of the holy land.

CROISIERS, *crucigeri*, **CROSS-BEARERS**, a religious order founded in honour of the invention or discovery of the cross by the empress Helena.

They are dispersed in several parts of Europe, particularly in the Low Countries, France, and Bohemia, those in Italy being at present suppressed. These religious follow the rule of St. Augustine. They had in England the name of crouched friers.

CROISSANTE, in heraldry, is said of a cross, the ends of which are fashioned like a crescent or half moon. See **CROSS**.

CROMARTY, or **CROMARTIE**, the capital of the shire of Cromartie, in Scotland, with an excellent and safe harbour capable of containing the greatest fleets: west long. $3^{\circ} 40'$, and north lat. $57^{\circ} 54'$.

CRONENBURG, a fortress of Denmark, situated in the island of Zealand, at the entrance of the Sound, where the Danes take toll of ships bound for the Baltic: east longit. $12^{\circ} 5'$, and north lat. 56° .

CRONSLÖT, or **CROWN-CASTLE**, a castle and harbour in a little island of the same name, at the mouth of the river Neva, and entrance of the gulph of Finland, in Russia, about twelve miles west of Peterburgh: east longitude 30° , and north latitude 60° .

Here is a station for the russian men of war, and a yard for building and refitting them.

CRONSTAT, a town of Transilvania, situated near the frontiers of Moldavia, about fifty miles north-east of Hermanstat, and subject to the house of Austria: east long. 25° , and north lat. 47° .

CROP, the collection of corn, hay, &c. that any piece of ground affords.

The great business of the farmer is to produce the largest crops he can, and, at the same time, to injure his land the least. The common way of sowing exhausts the whole land, without giving half the nourishment that it might give to the corn. Instead of the scattering way of sowing corn by the hand, if it be let in with the drill, in single, double, treble, or quadruple rows, and an interval of five feet of naked ground be left between these series of rows, the use of horse-hoeing in these intervals will be found to give all that the farmer requires: the crops will be larger, though so great a quantity of ground is left vacant, than if all were sown over, as the plants will stand vastly thicker in the rows, and will have twenty or thirty stalks a-piece; and the more the successive crops are planted, and the oftener the ground is hoed in this manner, the better will the plants be maintained, and every crop will be larger and larger from the same ground, without dunging, or without changing the sort of plant, as is usually necessary in other cases. See the articles **HUSBANDRY**, and **INTERVALS**.

This is very evident in several parts of the same field, where this sort of husbandry has been entered upon at different times, and some have a first crop, others a second, and others a third, all growing up at the same time, the older worked land always invariably shewing the best crop. Dunging and fallowing are both necessary to recover land to its virtue, in the common way, after a few crops. These are both of them expences to the farmer; but the horse-hoeing, when the corn is sown in rows, answers all the intent of them, and is much less expensive. It has, in short, every year, the good effect of a summer fallow, though it every year produces a good crop, and no time, or use of it, is lost to the farmer.

CROP, or **CRAW**, of birds, *ingluvies*. See the article **INGLUVIES**.

CROPPER, in ornithology, the english name

name of a species of pigeon, so called from the large crop or bag under its beak. See the article PIGEON.

CROSETTES, in architecture, the returns in the corners of chambranes, or door-cases, or window-frames, called also ears, elbows, anions, &c.

CROSIER, or **CROZIER**, a shepherd's crook; a symbol of pastoral authority, consisting of a gold or silver staff, crooked at the top, carried occasionally before bishops and abbots, and held in the hand when they give the solemn benedictions. The custom of bearing a pastoral staff before bishops is very antient. Regular abbots are allowed to officiate with a mitre and crozier. Among the Greeks none but a patriarch had a right to the crozier.

CROSIER, in astronomy, four stars in the southern hemisphere, in the form of a cross, serving those who sail in south latitudes to find the antarctic pole.

CROSLET, or **CROSSELET**. See the article **CROSSELET**.

CROSS, *crux*, in antiquity, a species of punishment, or rather the instrument wherewith it was inflicted, consisting of two pieces of wood, crossing each other. This punishment was only inflicted on malefactors and slaves, and thence called *servile supplicium*. The most usual method was to nail the criminal's hands and feet to this machine, in an erect posture; though there are instances of criminals so nailed with their head downward.

Invention of the CROSS, a festival observed on May 3, by the latin church, in memory of the empress Helena's (the mother of Constantine) finding the true cross of Christ, on mount Calvary, where she erected a church for the preservation of it.

Exaltation of the CROSS, a grand festival solemnized on September, 14, in commemoration of Heraclius's restoring to mount Calvary, the true cross, that had been carried off by Cosroes king of Persia, upon taking the city of Jerusalem.

Order of the CROSS, an order of ladies instituted in 1668, by the empress Eleanora de Gonzagua, wife of the emperor Leopold, on occasion of the miraculous recovery of a little golden cross, wherein were inclosed two pieces of the true cross, out of the ashes of a part of the palace that had been burnt down: though the fire burnt the case wherein it was enclosed, and melted the crystal, it appears that

the wood had not received the least damage.

CROSS, in botany. See **CRUCIFORM**.

CROSS, in dialling. See **DIAL**.

CROSS, in heraldry, is defined by Guillim, an ordinary composed of fourfold lines, whereof two are perpendicular, and the other two transverse; for so we must conceive of them, though they are not drawn throughout, but meet, by couples, in four right angles, near about the fesse-point of the escutcheon. The content of a cross is not always the same; for when it is not charged, it has only the fifth part of the field; but if it be charged, then it must contain the third part thereof.

This bearing was bestowed on such as had performed, or, at least, undertaken some service for Christ and the christian profession; and is therefore held by several authors the most honourable charge in all heraldry. What brought it into such frequent use was the antient expeditions into the holy land, the cross being the ensigns of that war.

In these wars, says Mackenzy, the Scots carried St. Andrew's cross; the French, a cross, argent; the English, a cross, or; the Germans, sable; the Italians, azure; the Spaniards, gules.

Guillim enumerates thirty-nine different crosses used in heraldry, the several names whereof follow: 1. A cross voided. 2. A cross wavy voided. 3. A cross patee fimbriated. 4. A cross patee fitch in the foot. 5. A cross patee on three parts, and fitch on the fourth. 6. A cross engrailed. 7. A cross potence. 8. A cross flory. 9. A cross potence voided. 10. A cross avelane. 11. A cross patee lambeaux. 12. A cross furchee. 13. A cross croiset. 14. A cross croiset fitch at the point. 15. A cross botone. 16. A cross pomel. 17. A cross urdee. 18. A cross degraded fitch. 19. A cross potent. 20. A cross potent fitch. 21. A cross calvary. 22. A cross croiset set on degrees. 23. A cross patriarchal. 24. A cross anchored. 25. A cross moline. 26. A cross clechee. 27. A cross fleury or fleur-de-lisee. 28. A cross double fitch. 29. A cross a seize points. 30. A cross milrine. 31. A cross raguled. 32. A cross pointed voided. 33. A cross pall. 34. A tau, or St. Anthony's cross. 35. A cross voided and coupé. 36. A cross coupé pierced. 37. A cross moline pierced lozenge-

zenge-wise. 38. A cross moline quarter-pierced. 39. A saltier, or St. Andrew's cross. See the articles VOIDED, WAVY VOIDED, &c.

Columbier makes eighty two distinct sorts of crosses, of which we shall only mention such as differ from those enumerated above, as, 1. A cross remplee, which is only one cross charged with another. 2. A cross party, that is, one half of one colour, and the other of another. 3. A cross quartered, that is, the opposite quarters of several colours. 4. A cross of five pieces, that is, of so many colours. 5. A cross moussue and alaïsee. 6. A cross barbee. 7. A cross croissantee or crescent, that is, having a crescent at each end. 8. A cross forked of three points. 9. A cross pomettee of three pieces. 10. A cross ressercellee. 11. A cross pointed. 12. A cross anchored and suranchored. 13. A cross anchored with snakes heads. 14. A cross orled. 15. A high cross. 16. A cross rayonnant. 17. A cross of Malta. 18. A cross of the Holy Ghost. 19. A cross forked like the antient rests for muskets. 20. A cross with eight points. 21. A cross bourdonnee. 22. A cross cramponnee. 23. A cross cablee. 24. A cross inclining. 25. A cross paternostree, made of beads. 26. A cross tresle. 27. A cross fleuronnee. 28. A vuidee, clechee, and pomettee. 29. A cross crenellee and bastillee. 30. A cross with four steps to every arm. 31. A cross rounded. 32. A cross and a half. 33. A cross estoille. 34. A cross corded. 35. A cross doubled of six pieces set together. 36. A double cross split in pale. 37. A long cross cut in pieces and dismembered. 38. A cross coupé or cut through in fess, of the two contrary colours to the field. 39. A chevron surmounted of an half cross. 40. Four tails of ermine in a cross. 41. Four pieces of vair, placed cross-ways, and counter-pointing in the center. 42. The cross or sword of St. James. 43. A cross potence cramponnee on the dexter upper arm, and potence about the middle of the shaft.

CROSS, in surveying, an instrument consisting of a brass circle, divided into four equal parts, by two lines intersecting each other at the center; at the extremity of each line there is a sight fixed, standing perpendicularly over the line, with holes below each slit, for the better discovery of distant objects.

This instrument is mounted on a stand, and is but little known, and less used among us, though abroad it is often used in surveying. See SURVEYING.

CROSS-BAR-SHOT, a bullet with an iron-bar passing through it, and standing six or eight inches out at both sides: it is used at sea, for destroying the enemy's rigging.

CROSS BATTERY, in the military art. See the article BATTERY.

CROSS-BILL, in ornithology, the english name of the loxia. See the article LOXIA.

CROSS-GRAINED, in joinery. Timber is said to be cross-grained, where a bough, or some branch, shoots out on a part of the trunk of the tree; for the grain of the branch, shooting forward, runs across that of the trunk; and if it be in wood well grown, it will scarce be perceived, except in working.

CROSS-JACK, in a ship, a yard slung at the upper end of the mizen-mast, without any halliards or ties, and used to spread and hale on the mizen-top-sail sheets.

CROSS-MULTIPLICATION, in arithmetic. See the article MULTIPLICATION.

CROSS-STAFF, the same with fore-staff. See the article FORE-STAFF.

CROSS-TREES, in a ship, four pieces of timber, bolted and let into one another across, at the head of the mast. Their use is to keep and bear the top-mast up; for the foot of the top-mast is always fastened into them.

CROSS-WORT, in botany, the english name of the cruciata, or valantia of authors. See the article VALANTIA.

It is said to be one of the principal vulneraries, and a good expectorant.

CROSSELET, a little or diminutive cross, used in heraldry, where the shield is frequently seen covered with crosselets; also fesses and other honourable ordinaries, charged or accompanied with crosselets. Crosses frequently terminate in crosselets. See plate LXII. fig. 5.

CROSSEN, a town of Silesia upon the Oder, situated in $15^{\circ} 30'$ east longitude, and $52^{\circ} 5'$ north latitude.

CROTALARIA, in botany, a genus of the diadelphia-decandria class of plants, whose flower is papilionaceous; the vexillum is cordated, acute, large, and depressed at the sides; the alæ are ovated, and only as long as half the vexillum; the carina is acuminate, and of the length of the alæ; the root is a short turgid pod, consisting of one cell, and containing two valves;

valves; the seed is either one or two, globose and kidney-shaped.

CROTALOPHORUS, the **RATTLE-SNAKE**, in zoology. See the article **RATTLE-SNAKE**.

CROTALUM, in antiquity, a kind of castagnettas, or musical instruments, found on medals, in the hands of the priests of Cybele.

The crotalum differed from the fistrum, though authors often confound the two. It consisted of two little brass plates, or rods, which were shook in the hand, and striking against each other, made a noise.

CROTAPHITES, in anatomy, a muscle of the lower jaw, serving to draw it upwards. Its fibres spring from the bones of the forehead, the sinciput, sphenoides, and temporale, which meeting, and, as it were, entering under the os jugale, whence also this muscle receives some fibres, proceed to the processus corone, into which they are inserted.

CROTCHES, in ship-building, very crooked timbers in the hold or bread-room, from the mizen-step aft, sayed cross the keelson, to strengthen the ship in the wake of the half-timbers. See plate LVIII. fig. 6. n° 1.

Iron-CROTCHES, crooked pieces of iron, used on board sloops and long-boats, which go with shoulder-of-mutton-sails, for the boom to lodge on. *Ibid.* n° 2.

CROTCHET, in music, one of the notes or characters of time, marked thus ♪, equal to half a minim, and double of a quaver. See the articles **CHARACTER**, **MINIM**, and **QUAVER**.

A dot added to the crotchet thus ♪., increases its time by one half, that is, makes it equal to a crotchet and a half.

CROTCHET, in printing, a sort of straight or curved line, always turned up at each extreme; serving to link such articles as are to be read together; and used in analytical tables, &c. for facilitating the divisions and subdivisions of any subject.

CROTCHETS are also marks or characters, serving to inclose a word or sentence, which is distinguished from the rest, being generally in this form [] or this ().

CROTON, **TURNSOLE PLANT**, in botany, a genus of plants of the monoecia-polyandria class, the male flowers of which being less than the female flowers, consist of five oblong obtuse petals, scarce larger than the cup: the petals of the female flower are the same as in the male; the fruit is a roundish capsule with three cells, each cell having two valves; the

seeds are solitary, large, and ovated. **CROTOY**, a town of France, situated in the province of Picardy, at the mouth of the river Somme: east long. 1° 30', and north lat. 50° 15'.

CROUP of a horse, in the manege, the extremity of the reins above the hips.

The croup should be large and round, so that the tops of the two hanch-bones be not within view of each other. It should have its compass from the hanch-bones to the very dock or onset of the tail; and should be divided in two by a channel or hollow all along to the dock.

A rocking croup is when a horse's fore quarters go right, but his croup swings from side to side: when such a horse trots one of the hanch-bones will fall and the other rise, like the beam of a balance; a sign that he will not be very vigorous.

CROUPADE, in the manege, a leap, in which the horse pulls up his hind legs, as if he drew them up to his belly. Croupades differ from caprioles and balotades, in this, that in croupades the horse does not jerk, as he does in the other two airs.

CROUPER, or **CRUPPER**. See the article **CRUPPER**.

CROW, or **CARRION-CROW**, in ornithology, the english name of a species of corvus, about the size of the largest tame pigeon, and all over of a fine deep black colour, with large eyes and reflex bristles at the nostrils. See plate LXI. fig. 1. n° A,

Royston CROW, the english name of another species of corvus, with the body grey, the head, throat, wings, and tail black. See plate LXI. n° B.

Scare CROW, the english name of the black larus, with grey wings and red legs. See the article **LARUS**.

CROW, in mechanics, a kind of iron-lever with a claw at one end, and a sharp point at the other: used for heaving or purchasing great weights. See plate LVII. fig. 5.

CROW'S BILL, among surgeons, a kind of forceps, for drawing bullets and other foreign bodies out of wounds.

CROW'S FEET, in the military art, machines of iron, having four points, each about three or four inches long, so made that whatever way they fall, there is still a point up: they are thrown upon breaches or in passes where the enemy's cavalry are to march, proving very troublesome by running into the horse's feet and laming them.

CROW'S FEET, in a ship, small lines or ropes,

ropes, sometimes eight or ten, reeved through the deadmen's eyes; and scarce of any other use than to make a shew of small rigging. They are usually placed at the bottom of the back-stays of the fore-top-mast, mizen-top-mast, and gallant-top-mast. See plate LVI. fig. 1.

CROW'S FOOT, the english name of the ranunculus. See **RANUNCULUS**.

CROW-NET, a device for taking wild-fowl in winter, being a net about ten yards long, and three wide, with meshes about two inches in width, verged on the sides with good strong cord, and extended out very stiff, upon long poles made for that purpose. It may be used for pigeons, crows, and the like, in corn-fields newly sown, or in stubble-fields.

CROW-STAVES, the two upright pieces inserted into the box of a plough, and bored with a number of holes, by means of which they support a transverse piece called the pillow of the plough. See the article **PLOUGH**.

CROWLAND, a market-town of Lincolnshire: west long. 10', and north lat. 52° 40'.

CROWN, an ornament worn on the head by kings, sovereign princes, and noblemen, as a mark of their dignity.

In scripture there is frequent mention of crowns, and the use of them seems to have been very common among the Hebrews. The high priest wore a crown, which was a fillet of gold placed upon the forehead, and tied with a ribbon of hyacinth colour, or azure blue. It seems also as if private priests, and even common Israelites wore also a sort of crown, since God commands Ezekiel not to take off his crown, nor assume the marks of one in mourning. This crown was no more than a ribbon or fillet, with which the Jews and several people in the east girt their heads. And indeed the first crowns were no more than a bandelet drawn round the head, and tied behind, as we still see it represented on medals round the heads of Jupiter, the Ptolemy's, and kings of Syria. Afterwards they consisted of two bandelets: by degrees they took branches of trees of divers kinds; at length they added flowers, insomuch that Claudius Saturninus says, there was not any plant whereof crowns had not been made. The woods and groves were searched to find different crowns for the several deities; and they were used not only on the statues and images of the gods, by the priests in sacrificing, and by kings and emperors,

but also on altars, temples, doors of houses, sacred vessels, victims, ships, &c. Some authors conclude, from passages in Eusebius Cæsarensis, that bishops had likewise antiently their crowns.

The roman emperors had four kinds of crowns, still seen on medals, *viz.* a crown of laurel, a radial or radiating crown, a crown adorned with pearls and precious stones, and the fourth a kind of bonnet or cap, something like the mortier. The Romans had also various kinds of crowns, which they distributed as rewards of military achievements; as, 1. The oval crown, made of myrtle, and bestowed upon generals, who were entitled to the honours of the lesser triumph, called ovation. See **OVATION**. 2. The naval or rostral crown, composed of a circle of gold, with ornaments representing beaks of ships, and given to the captain who first grappled, or the soldier who first boarded, an enemy's ship. Lipius believes the corona navalis and rostrata, to have been two distinct species, but they are generally thought to have been the same. 3. The crown called in latin, *vallis*, or *castrensis*, a circle of gold raised with jewels or palisades; the reward of him who first forced the enemy's entrenchments. 4. The mural crown, a circle of gold indented and embattled; given to him who first mounted the wall of a besieged place, and there lodged a standard. 5. The civic crown, made of the branch of a green oak, and given to him who had saved the life of a citizen. 6. The triumphal crown, consisting at first of wreaths of laurel, but afterwards made of gold; proper to such generals as had the honour of a triumph. 7. The crown called *obsidionalis*, or *graminea*, made of grass growing on the place; the reward of a general who had delivered a roman army from a siege. 8. The crown of laurel, given by the Greeks to their athletes; and by the Romans to those who had negotiated or confirmed a peace with an enemy: this was the least honourable of all. We meet also with the corona aurea, often bestowed on soldiers, without any other additional term; the radial crown, given to princes at their translation among the gods; athletic crowns, and crowns of laurel, destined to crown victims at the public games, poets, orators, &c. All those crowns were marks of nobility to the wearers; and upon competitions with rivals for rank and dignities,



Fig. 1. ANTIENT CROWNS.

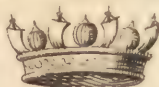
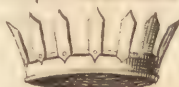
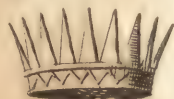
1.^o Oval.N.^o 2. Naval.N.^o 3. Callrenfis.N.^o 4. Mural.N.^o 5. Civic.N.^o 6. Triumphal.1.^o 8. Radial.

Fig. 2. ROYAL CROWNS.

N.^o 1. Imperial.N.^o 2. British.N.^o 3. French.N.^o 4. Spanish.N.^o 5. Papal.N.^o 6. Electoral.

Fig. 3.

CROWNS of the Blood Royal of Great Britain.
Prince of Wales. Younger Sons. Nephews.Fig. 4.
CROWNS
of NOBILITY.
N.^o 1. Duke's1.^o 2. Marquis's1.^o 3. Earls.1.^o 4. Viscounts.1.^o 5. Barons.

ties, often determined the preference in their favour. See plate LIX. fig. 1. n° 1, 2, 3, &c.

CROWN, in heraldry, is used for the representation of that ornament, in the mantling of an armory to express the dignity of persons.

Radiated or pointed crowns, are those of the antient emperors, which had twelve points, representing, as is thought, the twelve months of the year. Those crowns were called *pearled* or *flowered*, which have pearls or leaves of smallage, parsley, &c. Such were antiently almost all crowns, even those of sovereign princes, though they were not used on their armories till about two hundred years ago.

The imperial CROWN is a bonnet or tiara, with a semicircle of gold, supporting a globe with a cross at top. See plate LIX. fig. 2. n° 1.

The british CROWN is adorned with four crosses, between which there are four fleurs de lis: it is covered with four diadems, which meet at a little globe supporting a cross. *Ibid.* n° 2.

The french CROWN is a circle of eight fleurs de lis, encompassed with six diadems, bearing at top a double fleur de lis, which is the crest of France. *Ibid.* n° 3.

The spanish CROWN is adorned with large indented leaves, and covered with diadems terminating in a globe, surmounted with a cross. *Ibid.* n° 4.

The crowns of almost all other kings are adorned with large leaves, bordered with four, six, or eight diadems, with a globe and cross at top.

The papal CROWN is composed of a tiara and a triple crown encompassing it, with two pendants like the bishop's mitres. These crowns represent the pretended triple capacity of the pope, as high priest, supreme judge, and sole legislator of christians. *Ibid.* n° 5.

An electoral CROWN, or coronet, is a scarlet cap turned up with ermine, and closed with a semicircle of gold, all covered with pearls, with a globe at top, surmounted with a golden cross. *Ibid.* n° 6.

CROWNS of british princes of the blood. 1.

The prince of Wales's crown consists alternately of crosses and fleurs de lis, with one arch, in the middle of which is a ball and cross, as in the royal diadem.

2. That of all the younger sons and brothers of the king, consists likewise of crosses and fleurs de lis alternately, but without any arch, or being surmounted with a globe and cross at top. 3. That

of the other princes of the blood consists alternately of crosses and leaves like those in the coronet of dukes, &c. *Ibid.* fig. 3. n° 1, 2, 3.

CROWNS of noblemen are a duke's, composed of leaves of smallage, or parsley: that of a marquis, of flowers and pearls placed alternately: an earl's has no flowers about the circle, like the duke and marquis, but only points rising, and a pearl on every one of them: a viscount has neither flowers nor points raised above the circle, like the other superior degrees, but only pearls placed on the circle itself without any limited number: a baron's has only six pearls on the golden border, not raised, to distinguish him from the earls; and the number of them limited to shew he is inferior to the viscount. *Ibid.* fig. 4. n° 1, 2, 3, &c.

CROWN-ROYAL, an order of knighthood instituted, as is said, by Charlemain, to reward the Friezlanders, who had done him eminent service in his wars against the Saxons. The knights bore an imperial crown embroidered with gold as a badge of their honour. Father Heylot thinks that this order never existed but in the imagination of some modern writers.

CROWN, in commerce, a general name for coins both foreign and domestic, which are of, or very near, the value of five shillings sterling. See the article COIN.

CROWN, in architecture, denotes the uppermost member of the cornice, called also corona, and *larmier*. See the article LARMIER.

CROWN, in astronomy, a name given to two constellations, the one called borealis, the other meridionalis. See the article CORONA.

CROWN, in an ecclesiastical sense, is used for the clerical tonsure, which is the mark and character of ecclesiastics of the romish church. It is a little circle of hair shaved from the crown of the head, more or less large, according to the quality of the orders received. That of a mere clerk is the smallest, that of priests and monks the largest.

CROWN, in geometry, is a plane ring included between two concentric perimeters, and is generated by the motion of some part of a right line round a center, the said moving part not being contiguous to the center.

The area of a crown will be had by multiplying its breadth by the length of the middle periphery; for a series of terms in

arithmetic progression being $z \times \frac{a+w}{2}$, that is, the sum of the first and last multiplied by half the number of terms, the middle element must be $\frac{a+w}{2}$; wherefore that multiplied by the breadth, or sum of all the two terms, will give the crown.

CROWN of colours, certain coloured rings which like halos appear about the body of the sun or moon, but of the colours of the rainbow, and at a less distance than the common halos. These crowns, Sir Isaac Newton shews to be made by the sun's shining in a fair day, or the moon in a clear night, through a thin cloud of globules of water or hail all of the same bigness. And according as the globules are bigger or lesser, the diameters of these crowns will be larger or smaller; and the more equal these globules are to one another, the more crowns of colours will appear, and the colours will be the more lively.

CROWN-OFFICE, an office that belongs to the king's bench court, of which the king's coroner or attorney is commonly master. In this office, the attorney-general and clerk of the crown severally exhibit informations for crimes and misdemeanors at common law, as in the case of batteries, conspiracies, libelling, &c. on which the offender is liable to pay a fine to the king.

Clerk of the CROWN. } See { **CLERK.**
Plas of the CROWN. } { **PLEA.**
Officers of the CROWN. } { **OFFICER.**

CROWN-GLASS, denotes the finest sort of window-glass. See the article **GLASS**.

CROWN-GRAFTING. See **GRAFTING**.

CROWN-POST, in architecture, a post which in some buildings stands upright in the middle between two principal rafters, and from it there go struts or braces to the middle of each rafter. It is sometimes called a king's piece, or joggle piece.

CROWN-WHEEL of a watch, the upper wheel next the balance, which by its motion drives the balance, and in royal pendulums is called the swing-wheel.

CROWN-WORK, in fortification, an out-work having a very large gorge, generally the length of the curtain of the place, and two long sides terminating towards the field in two demi-bastions, each of which is joined by a particular curtain to a whole bastion, which is the head of the work. The crown-work is

intended to inclose a rising ground, or to cover the head of a retrenchment.

CROWN-IMPERIAL, *corona imperialis*, in botany, is ranked by Linnæus under the fritillaria. See **FRITILLARIA**.

CROWN-IMPERIAL-SHELL, a beautiful species of voluta, the head of which is surrounded with a series of sharp-pointed tubercles, so as to resemble an open crown: it has also two broad and very beautiful zones running round it.

CROWNED, in general, something ornamented with a crown. See **CROWN**.

CROWNED, in the manege; a horse is said to be crowned, when, by a fall, or any other accident, he is so hurt or wounded in the knee, that the hair sheds and falls off, without growing again.

CROWNED HORN-WORK, in fortification, a horn-work with a crown-work before it. See **CROWN-WORK**.

CROWNED TOPS, the first head of a deer, so called because the croches are raised in form of a crown. See **CROCHES**.

CROWNING, in architecture, is understood of any thing that finishes a decoration. Thus a cornice, a pediment, acroteria, are called crownings. See the article **ACROTERIA**.

Thus also the abacus is said to crown the capital. And any member or moulding is said to be crowned, when it has a fillet over it. And a niche is crowned when it is covered with a capital.

CROYDON, a market-town in Surry, about ten miles south of London.

CRUCIAL INCISION, in surgery, an incision made in form of a cross.

CRUCIANELLA, in botany, a genus of the tetrandria-monogynia class of plants. The flower consists of one single petal: the tube is of the figure of a cylinder, larger than the cup, and the limb is quadrifid and small. The fruit is two capsules growing together, and containing oblong solitary seeds.

CRUCIBLE, a chemical vessel made of earth, and so tempered and baked as to endure the greatest fire. They are used to melt metals, and to flux minerals, ores, &c.

The figure of a crucible is commonly that of an obtuse conoid, with its base at the top, and obtuse apex at the bottom; whence this conical figure may be varied, till it comes to the hollow segment of a sphere. It is a rule that the lower and wider they are made, the more easily the volatile matter flies from the fixed, and that the fire is applied to more of the surface,

face, both of the whole subject and its fixed part. See plate LVII. fig. 2.

The crucibles most generally used are those of Hesse and Austria; but because the former are sandy, and cannot sustain the fire after they are made wet, and the latter are blackish, from the admixture of iron in their composition, those of Hesse are less capable of resisting lead, and those of Austria less proper for the preparation of salts and antimony. Besides, when the crucible is required to be pretty large, the Hessian ones are very inconvenient; for they can scarce be used more than once: they must be heated very equably and gradually, and if they are touched with tongs, &c. unless when red hot, they immediately split: and those of Austria, when new, hurt both the colour and ductility of gold and silver. For these reasons, many prefer the mixture of which the glass-founders make their crucibles. Others order a mixture of the powder of common tiles, chalk, and linseed oil; and others, a large piece of chalk to be cut into the form of a crucible, and boiled in linseed oil for twenty-four hours. There are many other compositions for making crucibles, for which we refer the reader to *Cramer's Elementa Artis Docimasice*.

CRUCIFIX, a cross upon which the body of Christ is fastened in effigy, used by the roman catholics to excite in their minds a strong idea of our Saviour's passion.

They esteem it an essential circumstance of the religious worship performed at the altar; and on Good Friday they perform the ceremony of adoring it, which is done in these words, *O crux ave, spes unica; hail thou cross, our only hope*. The officiating priest uncovers the crucifix, elevates it with both his hands, and says, *ecce lignum crucis; behold the wood of the cross*. The people answer, *in quo salus mundi pependit; on which the Saviour of the world suffered death*. Then the whole congregation bow with great reverence, and devoutly kiss the holy wood.

CRUCIFIXION, a capital punishment by nailing the criminal to a cross. See the article **CROSS**.

CRUCIFORM, in general, something disposed cross-wise; but more especially used by botanists, for flowers consisting of four petals disposed in the form of a cross: such are the flowers of cabbage, rocket, wall-flower, &c. See **FLOWER**. From this structure of the flower, Tourne-

fort has denominated one of his classes of plants *cruciformes*; comprehending all plants with cruciform-flowers, called by Linnæus tetradynamia. See the articles **TETRADYNAMIA** and **BOTANY**.

CRUCIS EXPERIMENTUM. See the article **EXPERIMENTUM-CRUCIS**.

CRUDITY, among physicians, is applied to undigested substances in the stomach; to humours in the body which are unconcocted, and not prepared for expulsion; and to the excrements. There are two remarkable crudities in the stomach, the acid and nidorose. The first is when the aliments turn into a fixed acid liquamen more or less viscid, being not sufficiently attenuated and volatilized, which is the origin of chronic diseases. An acid crudity discovers itself by the heart-burn, by acid eructations in abundance, and by costiveness. It is corrected by absorbent and alkaline medicines, by volatile aromatics, &c. after which cathartics may be given; for if this method be not observed, purging medicines will not make their proper evacuations, but only cause gripings and spasms in the bowels. A nidorose crudity is when the aliments are so far corrupted, that they are turned into a putrilaginous liquamen of a very unsavoury taste and smell, which is called a nidor. It is attended with ferid eructations something like the smell of fried eggs, or stinking fish; and very often with the heart-burn, and a sort of nausea rising into the mouth from the stomach. With relation to the cure, an emetic should be given, or at least the body gently purged with rhubarb and tamarinds, after which acidulated juleps are good.

The crudity of the humours or morbid matter in a disease, is discovered chiefly from a fault in the quantity or quality of the circulating as well as the secreted humours, as of sweat, mucus, saliva, urine, pus, blood, &c.

Crudity of the urine is a bad sign in fevers; in ardent fevers it is a sign of phrensy.

CRUISE, in the sea-language, signifies to sail back and fore within a certain space of the sea, as well to annoy the enemy, as to protect our own trading vessels.

CRUISERS, in the british navy, men of war sent upon a cruise. See the article **CRUISE**.

CRUOR, among anatomists, sometimes signifies the blood in general; sometimes only the venous blood; and sometimes extravasated, or coagulated blood.

CRUPPER, in the manege, the buttocks of a horse, the rump; also a thong of leather put under a horse's tail, and drawn up by thongs to the buckle behind the saddle, so as to keep him from casting the saddle forwards on his neck.

CRURA CLITORIDIS, in anatomy, two legs of the clitoris, which run from the ossa pubis, and are three times as long as the clitoris in its natural state. See the article **CLITORIS**.

CRURA MEDULLÆ OBLONGATÆ, the two largest legs or roots of the medulla oblongata, which proceed from the cerebrum. See **BRAIN**, **CEREBRUM**, and **MEDULLA OBLONGATA**.

CRURÆUS, or **CRUREUS MUSCULUS**, in anatomy, a fleshy mass, covering almost all the foreside of the os femoris, between the two vasti, which likewise cover the edges of this muscle on each side. It is fixed to the foreside of the os femoris, from the anterior surface of the great trochanter, down to the lowest quarter of the bone, by fibres which run down successively over each other, between the two vasti, and are partly united to these two muscles, so that they do not seem to form a distinct muscle.

CRURAL, in anatomy, an epithet given to the artery which conveys the blood to the crura, or legs, and to the vein by which this blood returns towards the heart. The crural artery springs from the external branch of the iliac artery, upon which it lies, and is divided into two parts, the external and internal: the external is smaller, and is distributed throughout the exterior part of the thigh; the internal is larger, and forms the popliteæ, the surales, and the tibial arteries, and is afterwards, from the extremities of these, divided into a multitude of branches, to which anatomists have given no name, in the foot. The crural vein, which runs to the feet, and the internal branch of which, towards the internal malleolus, is called the saphæna; and its external about the knee, popliteæ; in the intermediate part of the leg it is called suralis; and about the great toe of each foot, the cephalic vein of the foot.

CRUS, in anatomy, all that part of the body contained between the buttocks and the toes; it is divided into the thigh, leg, and foot. See the articles **THIGH**, **LEG**, and **FOOT**.

CRUSCA, an Italian term signifying bran, is in use amongst us to denote that cele-

brated academy called della *crusca*, established at Florence, for purifying and perfecting the Tuscan language.

As this academy took its name from its office, which is to refine the language, and separate it from the bran, its device is a sieve, and the motto, *IL PIV BEL FIOR NE COGLIE*. That is, *it gathers the finest flour thereof*. In the apartment where the academy meets, every thing bears allusion to the name and device. The seats are in form of a baker's basket, and the cushions resemble sacks.

CRUSTA VILLOSA, in anatomy, the fourth tunic, or coat, of the stomach. See the article **STOMACH**.

Innumerable villi, or fibrillæ, are seen on the inner surface of this coat, rising every where perpendicularly from it, supposed, by Dr. Drake, to be excretory ducts to the subjacent glands.

CRUSTA LACTEA, in medicine, the same with *achor*, being scabby eruptions with which the heads of children are often troubled. See the article **ACHOR**.

In the cure, externals, especially such as are repellent, should be avoided; and things should be given inwardly which correct and temperate the blood, and expel the noxious matter by a diaphoresis. After the *prima via* are purged, both the nurse and child should take alexipharmics in the morning, and the testaceous powders, with calx antimonii, amber and cinnabar, in the afternoon.

CRUYSAGE, a species of shark with a triangular head, somewhat approaching to the figure of that of the *zygæna*, or hammer-headed shark. See **ZYGÆNA**.

CRUZ, or **St. CROIX**, one of the Caribbee-islands, situated about sixty miles south-east of Porto Rico, west longitude 64°, and north latitude 17° 30'.

CRUZADO, the same with *croisade*. See the article **CROISADE**.

CRYPTOGAMIA, κρυπτογαμία, one of Linnæus's classes of plants, the organs of fructification of which is either concealed within the fruit itself, or so minute as to escape observation. See **BOTANY**.

To this genus belong the mosses, mushrooms, ferns, liver-worts, &c. See the articles **MOSS**, **MUSHROOM**, &c.

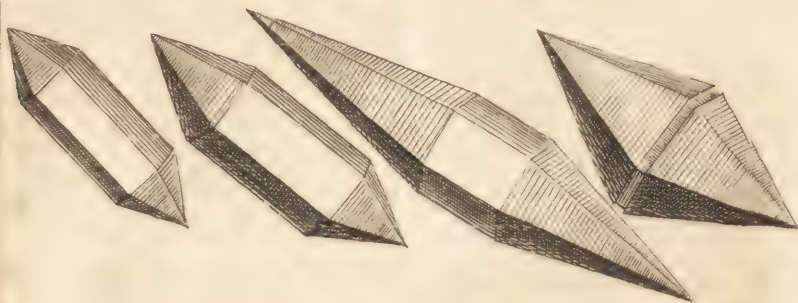
CRYPTOGRAPHY, the art of writing in cipher, or with sympathetic ink. See the articles **CIPHER** and **INK**.

CRYSTAL, κρυσταλλόν, in natural history, the name of a very large class of fossils; hard, pellucid, and naturally colourless; of regularly angular figures, composed of

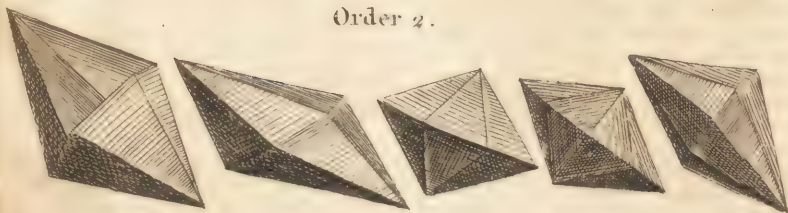


CRYSTALS.

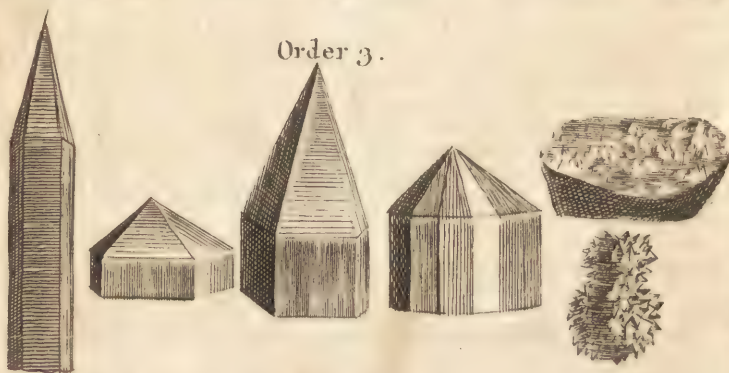
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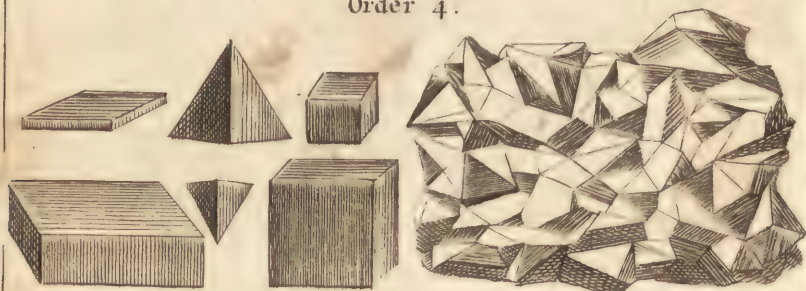
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Order 4.



of simple, not filamentous plates; not flexible nor elastic, giving fire with steel; not fermenting in acid menstrua, and calcining in a strong fire.

The orders of pure crystal are three; the first is perfect columnar crystals, with double pyramids, composed of eighteen planes, in an hexangular column, terminated by an hexangular pyramid at each end: the second order is that of perfect crystals, with double pyramids, without a column, composed either of twelve or of sixteen planes, in two hexangular pyramids, joined closely, base to base, without the intervention of any column: the third order is that of imperfect crystals, with single pyramids, composed either of twelve or ten planes, in an hexangular or pentangular column, affixed irregularly, at one end, to some solid body, and terminated, at the other, by an hexangular or pentangular pyramid.

These are all the general forms into which crystal, when pure, is found concentered: but under these there are almost infinite varieties in the number of angles, and the length, thickness, and other accidents of the columns and pyramids.

When crystal is blended with metalline particles at the time of its formation, it assumes a variety of figures wholly different from these, constituting a fourth order, under the name of metalline crystals: when that metal is lead, the crystal assumes the form of a cube; when it is tin, of a quadrilateral pyramid, with a broad base; when iron, the crystal is found concentered in rhomboidal crystals: these crystals are very common about mines; but the common spars, which are liable to be influenced in the same manner by the metals, and to appear in the very same form, are to be carefully distinguished from them. There is one very easy test for this purpose, which is, that all spars are subject to be dissolved by aqua-fortis, and effervesce violently only on their touching it: but it has no such effects on crystal. See plate LX. where n° 1. represents the first order, n° 2. the second, n° 3. the third, and n° 4. the metalline crystals.

The pebble crystal is common enough in all parts of the world; but that which is formed of hexangular columns, affixed to a solid base at one end, and terminated by a hexangular column at the other, is infinitely more so: this is what we call spig or rock crystal, and is the species described by most authors under the name

of crystal of the shops, or that kept for medicinal use.

It is to be chosen the clearest, purest, and most transparent that can be had: it should be proved to be no spar, by means of aqua-fortis, or by drawing a point of it along a pane of glass, which it cuts in the manner of a diamond. It is found in vast abundance in many parts of England and Ireland; and in Germany, it is yet more frequent. It is found about Bristol of an amethystine tinge: the colour of the ruby, sapphire, emerald and topaz, in which case jewellers make great advantage of it, selling it under the name of accidental sapphire, &c.

Medical writers report crystal to be an astringent and lithontriptic; and being calcined, is given in diarrhoeas, in the fluor albus, and in cases of gravel in the kidneys: it is also much recommended as a dentifrice; but it wears away the enamel of the teeth, and decays them. With regard to the formation of crystal, various were the opinions of the antients, nor are the moderns less undetermined. Dr. Hill, by a careful analysis of water, proves that crystal, as well as spar, can be, and continually is, suspended in water, and raised in form of vapour; and waits only the proper evaporation of that vapour, to concrete; that its smallest and original concretions, are necessarily in the regular form the body afterwards appears in; and that a congeries of these, being made by means of attraction, are gradually dilated, and spread equally over the mass already formed, by the action of the ambient fluid, and that aggregates of these particles can therefore never alter its form.

CRYSTAL is also used for a fictitious body, cast in glass-houles, called crystal-glass; being, in fact, no more than glass carried, in the composition and manufacture, to a greater perfection than the common glass.

The best kind of glass-crystal is that called Venice crystal, made at Moran, near Venice. See the article GLASS.

CRYSTALS, in chemistry, salts or other matters shot, or congealed, in the manner of crystal. See CRYSTALLIZATION.

CRYSTALS of tartar. See CREAM of tartar.

CRYSTAL MINERAL. See the article *Sal PRUNELLE*.

CRYSTALS of silver, or lunar CRYSTALS, are silver reduced into the form of salts, by

by the pointed acids of spirit of nitre. These crystals are like the solutions of an immediate caustic: they burn the skin on the slightest touch. There is another kind prepared for internal use: these are a violent purgative, and are given in dropsies and palsies: their dose is from three to eight grains. See **SILVER**.

CRYSTALS of *mars*, called also salt or vitriol of mars, a preparation of oil of vitriol and filings of iron, of use in opening obstructions of all kinds, and strengthening the viscera. See **PREPARATIONS** of **IRON**.

CRYSTAL of *venus*, called also vitriol of venus, copper reduced into the form of vitriol by spirit of nitre. It is also used as a caustic. See the articles **COPPER** and **VITRIOL**.

CRYSTALLI, among physicians, eruptions about the size of a lupin, white and transparent, which sometimes break out all over the body.

CRYSTALLINE, in general, something composed of, or resembling crystal. See the article **CRYSTAL**.

CRYSTALLINE HEAVENS, in antient astronomy, two spheres, imagined between the primum mobile and the firmament, in the ptolemaic system, which supposes the heavens solid, and only susceptible of a single motion. See the article **PTOLEMAIC SYSTEM**.

According to *Regio Montanus*, the first crystalline serves to account for the slow motion of the fixt stars, causing them to advance a degree in seventy years, from west to east, according to the order of the signs, which occasions the procession of the equinoxes: the second serves to account for the motion of trepidation, whereby the celestial sphere vibrates from one pole towards another, occasioning a difference in the sun's greatest declination. The modern astronomers account for these motions in a more natural and intelligible manner. See **EQUINOX** and **DECLINATION**.

CRYSTALLINE HUMOUR, in anatomy, a thick, compact humour, in form of a statish convex lens, situated in the middle of the eye, serving to make that refraction of the rays of light, necessary to make them meet in the retina, and form an image thereon, whereby vision may be performed. See the article **EYE**.

It is included by the assistance of an extremely fine tunic in the fovea of the vitreous humour, and is suspended by means of the ciliar ligament, between the aque-

ous and vitreous humour, immediately behind the pupil; in this place it hangs free, and is moveable by means of the ligament just mentioned. It is composed of a multitude of lamellæ, like the coats of an onion; and therefore also pellucid and vasculous. There is also a small quantity of the aqueous humour contained within or under its coat.

CRYSTALLIZATION, in chemistry, the concretion of a salt, before dissolved in water. See the article **SALT**.

The intentional end of crystallization, is to render the salts pure and distinguishable, as well by freeing them from feculencies, and giving them their proper form, as by separating each kind from every other with which they may happen to be mixed.

The manner of performing it is to make a saturate solution of the salts, in boiling water, either by adding the salts, if dry, to the water, or by evaporating the redundant water, if they were before dissolved, and then putting the solution into a proper vessel, and suffering it to stand at rest, in a cool place, till the crystals are formed. This is perfected in a longer or shorter time, according to the degree of heat or cold of the weather. It is nevertheless best, not to be too hasty in taking out the crystals, for there will be some continuance of their increase for a considerable length of time, and the quantity therefore obtained, by each operation, proportionably greater. When the full quantity of crystals is formed, the remaining solution, called, in this case, the mothers, is to be poured off; and what the crystals retain, must be drained off from them, which may be best done by putting them into an earthen culendar, on a sheet of filtering paper.

The crystals being thus taken from their mothers, they may be again evaporated, or dry salts may be added to them, whilst boiling, till a saturation of the hot solution is again produced, and on their being treated as before, a second quantity of crystals will be obtained. By the same method repeated, nearly the whole quantity of salts may be converted into crystals.

This is all that is necessary, when the salts are pure; but if they are mixed with any feculencies, it is requisite that, before the solution is set to shoot, filtration should be used.

CRYSTALLOIDES, the crystalline tunic

nic of the eye; a fine membrane containing the crystalline humour. See the article CRYSTALLINE HUMOUR.

CRYSTALLOMANCY, κρυσταλλομαντεία, in antiquity, a kind of divination, performed by means of a mirror, wherein the figures of the things required are said to have been represented.

CUB, a bear's whelp. Among hunters, a fox and martern of the first year, are called cubs.

CUBA, an island of North America, situated in the Atlantic ocean, between 74° and 87° of west long. and between 20° and 23° north lat. being eight hundred miles and upwards in length from east to west, and generally about seventy miles broad. It lies about fifty miles west of Hispaniola, and seventy-five north of Jamaica.

CUBAGUA, an american island, situated between the island of Margareta and Terra Firma, and subject to Spain: west long. 64° , and north lat. $10^{\circ} 15'$.

CUBATURE of a solid, in geometry, the measuring the space contained in it; or finding the solid content of it.

CUBE, in geometry, a solid body, consisting of six equal square sides. See plate LVII. fig. 3. where ABCD constitutes the top square, AEFB, one of the sides, &c.

The solidity of any cube is found by multiplying the superficial area of one of the sides by the height. Cubes are to one another in the triplicate ratio of their diagonals; and a cube is supposed to be generated by the motion of a square plane, along a line equal to one of its sides, and at right angles thereto; whence it follows, that the planes of all sections, parallel to the base, are squares equal thereto, and, consequently, to one another.

CUBE, or **CUBIC NUMBER**, in arithmetic, that which is produced by the multiplication of a square number by its root; thus, 64 is a cube number, and arises by multiplying 16, the square of 4, by the root 4.

CUBE, or **CUBIC QUANTITY**, in algebra, the third power in a series of geometrical proportionals continued; as a is the root, $a a$ the square, and $a a a$ the cube. All cubic numbers may be ranged into the form of cubes; as 8 or 27, whose sides are 2 and 3, and their bases 4 and 9; whence it appears, that every true cubic number, produced from a binomial root, consists of these parts, viz. The cubes of the greater and lesser

parts of the root, and of three times the square of the greater part multiplied by the lesser, and of three times the square of the lesser multiplied by the greater, as,

$$a^3 a + 2 a b + b b$$

$$a + b$$

$$a a a + 2 a a b + a b b$$

$$a a b + 2 a b b + b b b$$

$$a a a + 3 a a b + 3 a b b + b b b$$

From hence it is easy to understand both the composition of any cubic number, and the reason of the method for extracting the cube root out of any member given. See the following article.

CUBE root of any number, or quantity, such a number, or quantity, which, if multiplied into itself, and then, again, the product thence arising, by that number or quantity, being the cube root, this last product shall be equal to the number or quantity whereof it is the cube root, as 2 is the cube root of 8, because two times 2 is 4, and two times 4 is 8; and $a + b$ is the cube root of $a^3 + 3 a^2 b + 3 a b^2 + b^3$.

Every cube number has three roots, one real root, and two imaginary ones, as the cube number 8 has one real root 2, and two imaginary roots, viz. $\sqrt{-3} - 1$ and $\sqrt{-3} + 1$; and generally if a be the real root of any cube number, one of the imaginary roots of that number will be

$$a + \sqrt{-3 a a}$$

$$a - \sqrt{-3 a a}$$

and the other

See EXTRACTION.
Duplication of a CUBE. See the article **DUPLICATION.**

CUBEBS, *Cubeba*, of the shops, in the materia medica, a small dried fruit, resembling a grain of pepper, but often somewhat longer, brought into Europe from the island of Java. They are to be chosen large, fresh and sound. Cubebs are an aromatic, though not of a very strong smell; and are acid and pungent to the taste, though less so than pepper. They abound in a fine, thin, essential oil, which may be separated from them, in very considerable quantities, by distillation, in an alembic, with water, in the common way; they are warm and carminative, and are esteemed good in vertigos, palpies, and in disorders of the stomach. The Indians steep them in wine, and esteem them provocatives to venery. The dose is from three grains to

to six or eight; but they are seldom given singly.

CUBIC, or **CUBICAL**, **EQUATION**, in algebra, one whose highest power consists of three dimensions, as $x^3 = a^3 - b^3$, or $x^3 + rxx = p^6$, &c. See the article **EQUATION**.

CUBIC foot of any substance, so much of it as is contained in a cube, whose side is one foot. See the article **CUBE**.

CUBIC HYPERBOLA. See the article **HYPERBOLA**.

CUBIC PARABOLA. See **PARABOLA**.

CUBIDIA, a genus of spars, so called from their being of the shape of a cube, or common dye. See the article **SPAR**.

CUBIT, in the mensuration of the antients, a long measure, equal to the length of a man's arm, from the elbow to the tip of the fingers.

Dr. Arbuthnot makes the english cubit equal to 18 inches; the roman cubit equal to 1 foot, 5,406 inches; and the cubit of the scripture equal to 1 foot, 9,888 inches.

CUBITÆUS, in anatomy, the name of two muscles; the one called cubitæus externus, being the first of the extensor muscles of the fingers, arises from the external extuberance of the humerus, and passing its tendon, under the ligamentum annulare, is inserted into the fourth bone of the metacarpus, that sustains the little finger: the other is the cubitæus internus, which ariseth from the internal extuberance of the humerus, and upper part of the ulna, upon which it runs all along, till it passes under the ligamentum annulare, and is inserted, by a strong and short tendon, into the fourth of the first order of the carpus.

CUBITUS, in anatomy, a bone of the arm, reaching from the elbow to the wrist, otherwise called the ulna. The cubitus, for the sake of the more easy and varied motion, is composed of a binary number of bones, called the cubitus, or ulna, and the radius. The situation of the ulna is interior, its length is greater than that of the radius, and has a motion of flexion and extension.

Fractured CUBITUS. The lower-part of the arm, which is called the cubitus, contains two bones, the radius and ulna: fractures of this part, therefore, sometimes happen only to one, sometimes to both these bones, and that sometimes near their extremities, but oftener toward their middle; but, when they are both broke

together, the bones are not only very easily distorted from each other, but they are not to be replaced without very great difficulty also: if one only should, on the contrary, be broken, while the other remains whole, the fractured parts do not much recede out of their places, nor are they very difficult to reduce and retain; for the bone remaining sound is found, in this case, to be a better direction and support than either splints or bandages. When the fracture happens toward the lower head, near the pronator quadratus muscle, the fractured part is strongly drawn by that muscle, and the intervening ligament that is extended between the radius and ulna, toward the sound bone; and this makes it more difficult to replace. If the radius is to be replaced, whose fragment is contracted towards the ulna, an assistant must hold the arm, while the surgeon inclines the patient's hand towards the ulna, to draw back the contracted part of the radius. When this is done, he must carefully reduce them by compression on both sides with his hands, so as to restore the compressed muscle between the radius and ulna, and the fragments of the radius, to their proper places. In this case, Heister directs, that the arm be bound up with the proper bandage, and the limb be afterwards placed in a sort of case made of pasteboard or light wood, to be suspended in a sling put about the neck.

In setting a fracture of the ulna, the whole method must be the same with this of the radius, except that in the extension, the hand must be bent toward the thumb, and radius, before the distorted part of the ulna can be compressed into its proper place. When both bones of the cubitus are broken, the method of cure is much the same with that used to each of them, when broken singly; but there is required more strength and circumspection, both in the replacing them, and a great deal of caution in applying the bandage to retain them. Care must also be taken, that, while the arm continues in this case a great while, without motion, the mucilage of the joints does not harden, or the ligament become stiff, and the arm, or cubitus, be thereby rendered immovable. To guard against this, it will be proper to unbind the arm once in two or three days, and to move it a little carefully and gently, backward and forwards; and sometimes to foment it

it with warm water or oil, by which means its motion will be preserved.

Luxated CUBITUS. The cubitus consisting of two bones, the ulna and radius, is articulated by a *gynglymus*; and the connection of these bones is such, that the ulna, or cubitus, as being the largest bone, and seated in the lower part of the arm, does of itself perform the whole flexion and extension of the arm, yet it cannot perform those motions without carrying the radius along with it; but, on the other hand, the radius may be turned along with the hand both inward and outward, without at all moving or bending the ulna, as when the pronation and supination of the hand are made thereby. Both these bones of the cubitus are so articulated with the lower head of the *os humeri*, that large protuberances are received into deep cavities or grooves, and the whole invested, and fastened with exceeding strong ligaments; so that, notwithstanding the cubitus may be luxated in all four directions, outward or inward, backward or forward, yet it is but seldom that it suffers a perfect or entire dislocation, unless the upper part of the ulna be broken, or the ligaments of the cubitus much weakened by some great external violence. The slighter and more recent luxations of this kind are, the more easy is the reduction of them. Be the case better or worse; however, the patient must be placed in a chair, and both parts of the limb, the humerus and the cubitus, must be extended in opposite or contrary directions, by two strong assistants, till the muscles are found pretty tight, with a free space between the bones; then the luxated bone must be replaced, either with the surgeon's hands alone, or with the assistance of bandages, that the processes may fall into their sinuses; and when that is done, the cubitus must be suddenly bent. But if the tendons and ligaments are so violently strained, that they can scarce perform their office, it will be proper to anoint them with emollient oils, ointments, and the fat of animals; or to apply emollient cataplasms and fomentations. As soon as the reduction has been effected, the articulation must be bound up with a proper bandage, and the arm afterwards suspended in a sling hung about the neck. But care must be taken that the bandage is not kept on too long, nor the arm kept entirely without motion all the time, lest the mucilage of

the joint should become inspissated, and the articulation rendered, by that means, stiff, or the motion of the part be entirely lost. To prevent this, it will be proper to undo the bandage every other day, and gently to bend, and extend the limb; afterwards compresses dipped in warm wine may be applied, and held on with the bandage.

CUBOIDES, or *Os CUBOIDES*, in anatomy, the seventh bone of the foot; so called from its resembling a cube. It is situated in the external side of the tarsus, where it receives the outer bone of the metatarsus, and is articulated with the neighbouring bones.

CUBUS CUBI, the ninth power of any number or quantity. See **POWER**.

CUCKING-STOOL, antiently called tumbrel, an engine invented for the punishment of scolds, and unquiet women, by ducking them.

This instrument was a sort of chair, in which the offender was fastened, and so ducked: it was formerly made use of to punish bakers, and brewers, upon transgressing the laws made in relation to their several trades; for upon offending in this respect, they were ducked, or plunged in some stinking, muddy pond, by means of this chair.

CUCKOW, in ornithology, the english name of a well known bird, called by zoologists *cuculus*. See **CUCULUS**.

CUCKOW-FLOWER, in botany, a name sometimes given a plant, more generally called *cardamine*, or lady's smock. See the article **CARDAMINE**.

CUCKOW-SPIT, the same with froth-spit. See the article **FROTH-SPIT**.

CUCKOW-SPIT-INSECT, a species of cicada, so called from its producing the substance cuckow-spit. See **CICADA**.

CUCUBALUS, in botany, a genus of the decandria trigynia class of plants, whose corolla consists of five petals; the ungues of which are of the length of the cup, the limb plain, and the bractæe bifid. The fruit is a small, roundish, acuminate capsule; the seeds are numerous and roundish. See plate **LXI. fig. 2.**

CUCULLARIA, in zoology, a species of phalænæ, or moths, with simple antennæ, a spiral tongue, and the forehead a little prominent. See the article **PHALÆNA**.

CUCULLARIS, in anatomy, a muscle of the scapula, otherwise called *trapezius*; It arises from the *os occipitis*, and the spinose apophyses of the neck, and of

the seventh and eighth of the back. Its termination is at the spine of the scapula. It has the power of several very different motions; the different course of its several fibres enabling it, as they act differently, to move the scapula upwards, downwards, or backwards.

CUCULUS, the Cuckow, in ornithology, a genus of birds, of the order of the picæ, the characters of which are these: the beak is smooth; the nostrils are a little prominent; the tongue is entire, and sagittated; the toes are four in number, two before and two behind.

The common cuckow is a bird of considerable beauty, which breeds with us, but does not remain all the year.

Its head, neck, and back are of a hoary colour, with some dark grey feathers; the wings are of a brownish black, the throat of an undulated flesh colour, and the belly whitish. This is the colour of the female; from which the male differs in some particulars. See plate LXIV. fig. 1.

The great spotted cuckow is about the size of a magpye, or jay, and is the most elegant bird of its kind. See plate LXVI. fig. 1.

The crown of the head is covered with soft feathers, of a bluish ash-colour, somewhat resembling a crest; the upper part of the body is a dark brown; all the quill feathers of the wings are tipped with white, as are those of the tail.

CUCUMBER, *cucumis*, in botany, a genus of the monoecia-syngenesia class of plants: the corolla is formed of a single companulated petal, and divided into five segments; the calyx and corolla of the female flower, are the same as those in the male: the fruit is fleshy like an apple, containing three cells; the seeds are numerous, compressed, ovato-acute, and placed in a double row. See plate LIV. fig. 9.

Besides the use of cucumbers as a food, their seed is one of the four greater cold seeds of the shops, and is almost an universal ingredient in emulsions, and is found of great service in fevers and nephritic complaints.

Wild CUCUMBER, the same with the elaterium, or momordica of botanical writers. See the article **MOMORDICA**.

CUCURBIT, in chemistry, an earthen or glass vessel, so called from its resemblance to a gourd, arising gradually from a wide bottom, and terminating in a narrow neck.

This instrument is of great use in che-

mical distillations, digestions, and sublimations. The more the wideness of the bottom, at its largest part, surpasses the narrowness of the neck, and the narrower and longer the neck is, with the greater difficulty is the liquor in the cucurbit distilled. Upon these circumstances depends the choice we ought to make of cucurbits.

Blind CUCURBIT is a small inverted cucurbit adapted to another, in such a manner, that the neck of the one is inserted in that of the other. The vessel called circulatory, is one of this kind.

CUCURBITA, the GOURD, in botany, a genus of the monoecia-syngenesia class of plants; the corolla of which is formed of a single companulated petal, divided into five segments. The fruit is apple-like, and contains three membranaceous cells: the seeds are numerous, compressed, tumid, obtruse, and placed in two rows. See the article **GOURD**.

CUD, sometimes means the inside of the throat in beasts, and sometimes the food that they keep there, and chew over again; from whence, to *chew the cud*, signifies, to ponder, think, or ruminate upon a thing.

CUD LOST; cattle sometimes lose the cud by chance, sometimes by sickness, poverty, mourning, &c. to cure which, take four laven of rye-bread, and salt, and mixing it with human urine and barm, beat it in a mortar; then making a large ball or two thereof, put them down the beast's throat.

CUDDY, in great ships, a place lying between the captain-lieutenant's cabin, and the quarter-deck, under the poop. It is divided into partitions for the master and other officers.

CUDWEED, the english name of a genus of plants called by authors gnaphalium. See the article **GNAPHALIUM**.

CUE, among stage-players, an item, or innuendo, given to the actors on the stage, what, or when to speak.

CUENCA, a city, and bishop's see, of New Castile, in Spain, about eighty-five miles east of Madrid: west long. 2° 40', and north lat. 40° 12'.

CUI ante divorcium, a writ that a woman, divorced from her husband, has to recover her lands and tenements, which, before her coverture, she held in simple fee, in tail, or for life, from a person to whom the husband had alienated them during the marriage, when it was not in her power to gainlay it.

CUI in vita, a writ of entry, which a widow

widow may have against him to whom her husband in his life-time did alienate her lands or tenements, without her consent first had, and lawfully joining therein.

CUIRASSE, a piece of defensive armour, made of iron plate, well hammered, serving to cover the body, from the neck to the girdle, both before and behind : whence,

CUIRASSIERS, cavalry armed with cuirasses, as most of the germans are : the french have a regiment of cuirassiers : but we have had none in the english army, since the revolution.

CUL de lamp, in architecture, a term used for several decorations, both of masonry and joinery, found in vaults and ceilings, to finish the bottom of works ; and wreathed something in manner of a testudo, particularly, a kind of pendentive in gothic vaults.

CUL de four, a sort of spherical vault, like an oven. See the article VAULT.

CUL de four of a niche, signifies the arched roof of a niche, on a circular plan.

CULDEES, in church-history, a sort of monkish priests, formerly inhabiting Scotland and Ireland. Being remarkable for the religious exercises of preaching and praying, they were called, by way of eminence, *cultores Dei* ; from whence is derived the word culdees. They made choice of one of their own fraternity to be their spiritual head, who was afterwards called, the Scots bishop.

CULEUS, in roman antiquity, the largest measure of capacity for things liquid, containing twenty amphoræ, or forty urnæ. It contained one hundred forty-three gallons three pints, english wine measure ; and was 11,095 solid inches.

CULEX, in zoology, a genus of two-winged flies, the mouth of which is tubular, like a siphon, but exceeding slender, and filiform.

Under this genus are comprehended the gnats, and humble-bees. See the article GNAT, &c.

CULIACAN, the capital of a province of the same name in Mexico, opposite to the southern end of California. West longit. 113°, and north latit. 24°.

CULLIAGE, a barbarous and immoral practice, whereby the lords of manors antiently assumed a right to the first night of their vassals brides.

CULLEMBACK, or **CULLEMBERG**, a marquisate in the north-east part of the circle of Franconia ; in Germany.

CULLEN, a parliament town in Scotland, situated on the sea-coast of Bamfshire, west long. 2° 12', and north lat. 57° 38'.

CULM, among botanists, a term used to denote the stalk of grasses, hence called culmiferous plants. See the next article.

CULMIFEROUS PLANTS, in botany, such plants as have a smooth jointed stalk, usually hollow, and at each joint, wrapped about with single, narrow, sharp-pointed leaves, and their seeds contained in chaffy husks, as wheat, barley, &c.

CULMINATION, in astronomy, the passage of any heavenly body over the meridian, or its greatest altitude for that day.

The culmination of any star may be found by the globe. See GLOBE.

As in the horizon all stars first appear and disappear, so, in the meridian circle, they all arise to their greatest height : and likewise, they are at the greatest depression, below the horizon, when they arrive at the same meridian. Now, since the meridian makes right angles, both with the equator and the horizon, it will divide the segments of the equator, and all its parallels, as well those that lye above the horizon, as those which are below it, into equal portions, and therefore the time between the rising of a star, and its culmination, or arrival at the meridian, will be equal to the time between this culmination and its setting.

The *medium cæli*, or mid heaven, is that part of the ecliptic which culminates.

CULMORE, a town of Ireland, in the county of Londonderry, and province of Ulster, about five miles north of Londonderry : west long. 7° 40', and north lat. 55°.

CULMUS, the culm of plants. See the article CULM.

CULPABLE, *Culpabilis*. See the article NON EST CULPABILIS.

CULPRIT, a formal reply of a proper officer in court, in behalf of the king, after a criminal has pleaded not guilty, affirming him to be guilty, without which the issue to be tried is not joined. After an indictment, for any criminal matter, is read in court, the prisoner at the bar is asked whether he is guilty, or not guilty, of the indictment ? if he answers, not guilty, there is a replication by the clerk of the arraignments from the crown, by continuing

the charge of the guilt upon him, which is expressed in the word *culprit*.

The term *culprit* is a contraction of the latin *culpabilis*, and the old French word *priz*, now *pret*, importing that he is ready to prove the criminal guilty.

CULROSS, a parliament-town of Scotland, situated on the river Forth, about twenty-three-miles north-west of Edinburgh: west long. $3^{\circ} 34'$, and north lat. $56^{\circ} 8'$

CULTURE of lands. See **AGRICULTURE**.

CULTURE of hops, wheat, barley, &c. See the articles **HOP**, **WHEAT**, **BARLEY**, **SOWING**, **PLANTING**, &c.

CULVERIN, in the military art, a large cannon, or piece of artillery, for the kinds, weight, and proportions of which, see the article **CANNON**.

CULVERTAILED, among shipwrights, signifies the fastening, or lashing, of one timber into another, so that they cannot slip out, as the carlings into the beams of a ship. See **CARLINGS**.

CUMBERLAND, one of the most northerly counties of England, separated from Scotland by the frith and river of Solway. It gives the title of duke to his royal highness William duke of Cumberland, &c.

CUMMIN, *Cuminum*, a genus of the pentandria-digynia class of plants, the general corolla of which is uniform: the single flowers consist each of five inflexo-emarginated, and somewhat unequal petals: there is no pericarpium: the fruit is of an oval figure, and striated: the seeds are two, of an oval figure, convex and striated on one side, smooth and plain on the other.

Cumin seed is a good carminative, and stomachic; and is given with good success in cholics, vertigoes, and other diseases of the head.

It is also successfully used externally in cataplasms and fomentations, wherever a warm discutient is required. Its essential oil is one of the best carminatives in the shops; its dose being two or three drops on sugar. See **ANISE**.

CUNEIFORM, in general, an appellation given to whatever resembles a wedge.

CUNEIFORM-BONE, in anatomy, the seventh bone of the cranium, called also os basillare, and os sphenoides. See the article **SPHENOIDES**.

CUNEIFORM BONES, or **OSSA CUNEIFORMIA**, are also three bones of the foot, all different in their sizes, and articulated with the os naviculare,

and with the three bones of the metatarsus, viz. those which support the great toe, the second, and the third. See **METATARSUS**, and **NAVICULARE**.

CUNETTE, or **CUVETTE**, in fortification, a deep trench, about three or four fathoms wide, sunk along the middle of a dry moat, to make the passage more difficult to the enemy.

CUNEUS, the wedge, in mechanics. See the article **WEDGE**.

CUNEUS, in antiquity, a company of infantry, drawn up in form of a wedge, the better to break through the enemy's ranks.

This was also the name of a series of benches in the theatre at Athens, narrower near the stage, and broader behind, in resemblance of a wedge.

CUNEUS, in natural history, a kind of fossil muscle shells, with one side much longer than the other, and found in vast numbers in many parts of the kingdom.

Parabolic CUNEUS, in geometry. See the article **PARABOLIC**.

CUNICULUS, the **RABBIT**, in zoology, a well known animal of the lepus, or hare-kind, with an abrupt tail, and red eyes. See **HARE** and **RABBIT**.

CUNILA, in botany, a genus of the didynamia-gymnospermia class of plants, whose flower consists of a single ringent petal; the tube is shorter than the cup; the upper lip is erect, fornicated and emarginated; the lower lip is very slightly divided into three parts: there is no pericarpium, the fruit being shut up in the inner neck of the cup; there are four ovated seeds.

CUNNINGHAM, one of the four bailiwicks of Scotland, and one of the three into which the shire of Ayr is subdivided. It lies north-east of Kyle. Its chief town is Irwin. See the article **AIR**.

CUNNUS, in anatomy, denotes the female pudendum. See **PUDENDUM**.

CUP, a vessel of capacity of various forms, and materials, chiefly used to drink out of.

CUP, among botanists, the same with **calyx**. See the article **CALYX**.

CUPANIA, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which consists of five roundish, patent petals, less than the cup: the fruit is a coriaceous capsule, of a turbinate oval figure, formed of three valves, and containing only one cell; the seeds are six in number, and roundish; each has a proper receptacle of



Fig. 1. CROWS.



Fig. 2. CUCUBALUS.



Fig. 3. CUPRESSUS, the CYPRESS-TREE.



of a companulated figure, and crenated, surrounding it.

CUPOLA, in architecture, a spherical vault; or the round top of the dome of a church, in form of a cup inverted. See the article **DOMES**.

CUPPEL, or **COPEL**, in chemistry. See the article **COPEL**.

CUPPING, in surgery, the operation of applying cupping-glasses for the discharge of blood, and other humours, by the skin.

The operation of cupping is not confined to any particular member of the body; but wherever the cupping glass is applied, it is fixed upon the skin, either intire or scarified, and hence we have a twofold distinction of cupping, into dry and gorey.

In dry cupping, the glass adheres to the skin, by expelling or rarefying its included air, by lighted flax, or the flame of a burning candle within it, so that the glass is pressed upon the part with a considerable force, by the external air. The use of this dry cupping is twofold, either to make a revulsion of the blood, from some particular parts affected, or else to cause a derivation of it into the affected part, upon which the glass is applied: hence we have a reason why Hippocrates orders a large cupping-glass to be applied under the breasts of a woman who has too profuse a discharge of her menses, intending thereby to make a revulsion of the blood upwards from the uterus. Dry cupping is also used, with success, to make a revulsion, by applying the glasses to the temples, behind the ears, or to the neck and shoulders, for the removal of pains, vertiges, and other disorders of the head: they are applied to the upper and lower limbs, to derive blood and spirits into them, when they are paralytic; and, lastly, to remove the sciatica, and other pains of the joints. The operation in these cases is to be repeated upon the part, till it looks very red, and becomes painful.

In Germany, and other northern countries, cupping is much oftener joined with scarification, than used alone; in which case the part is first to be cupped, till it swells and looks red, and the skin is to be punctured, or incised, by the scarifying instrument.

As several glasses, sometimes six or eight, are often applied at once, the operator must manage his business so, that some glasses may be filling, while he is scar-

ifying, and adapting the others. When the blood ceases to flow fast enough, he must repeat his incisions, close by the former, and re-apply the cupping-glasses. The operation being finished, and the skin well cleansed with a sponge, and warm water, it is next to be rubbed over with a bit of deer's suet, to promote the healing: but if the blood still continues to flow, the skin is to be washed with spirit of wine and hungary water, binding it up with a compress and bandage.

The cupping-glass and instrument are represented in plate LXIV. fig. 2.

This instrument consists of a brass-box, on one of whose sides are a number of lancets, moveable by a spring within the box. When this side is applied to the skin, the spring is to be raised by the handle A; and on depressing the button B, it causes the lancets to pierce the skin all at once.

Nux **CUPRESSI**. See the article **NUX**.

CUPRESSUS, the **CYPRESS-TREE**, a genus of the monoecia-monadelphia class of plants, having no corolla; the calyx of the male flower is a squama of an amentum; the antheræ, being four in number, are sessile, and have no filaments; In the female flower, the calyx contains two, and is a squama of a strobilus: It has no corolla, there are hollowed points in the place of styles: there is no pericarpium: the fruit is a subglobose cone, shut up, opening with roundish and pointed squamas; under which is contained the seed, being an angular, acuminate, small nut. See plate LXI. fig. 3.

CUR, or **CYRUS**, a river of Asia, which taking its rise in mount Caucasus, and running south through Georgia, and the province of Chervan, in Persia, unites with the river Atlas, or Araxes, and continues its course eastward to the Caspian Sea.

CURASSOW, or **CURACU**, one of the lesser Antille-Islands, subject to the Dutch, and situated in 68° 30', west long. and 12° 30', north lat.

CURATE, properly signifies the parson, or vicar of a parish, who has the charge, or cure, of the parishioners souls. See the article **CURE**.

CURATE, also signifies a person substituted by the incumbent, to serve his cure in his stead. A cure is to be licensed or admitted by the bishop of the diocese, or ordinary, having episcopal jurisdiction. By the statute, curates, licensed

licensed by the bishop, are to be appointed by him a stipend not exceeding 50*l.* *per annum*, nor less than 20*l.*

CURATOR, among civilians, a person regularly appointed to manage the affairs of minors, or persons mad, deaf, dumb, &c. In countries, where the civil law prevails, minors have tutors assigned them, till they are of the age of fourteen, between which and twenty-five, they have curators appointed them. There are also curators for the estate of debtors, and of persons dying without heirs.

CURATOR of an university, in the united Netherlands, an officer that has the direction of the affairs of the university, such as the superintendence of the professors, the management of the revenues, &c. these officers, being elective, are chosen by the states of each province. Leyden has three curators.

CURB, in the manege, a chain of iron, made fast to the upper part of the branches of the bridle, in a hole, called the eye, and running over the horse's beard. It consists of these three parts, the hook fixed to the eye of the branch; the chain of SS's, or links; and the two rings or mailles. Large curbs, provided they be round, are always most gentle: but care is to be taken, that it rest in its proper place, a little above the beard, otherwise the bitmouth will not have the effect that may be expected from it.

English watering bits have no curbs; the turkish bits called genettes, have a ring that serves instead of a curb.

To give a leap upon the CURB, is, to shorten the curb, by laying one of the mailles, or SS like joints of the chain, over the rest.

CURB is also a hard and callous swelling, that runs along the inside of a horse's hoof, in the great sinew behind, above the top of the horn, which makes him halt, and go lame, when he has been heated. It is to be cured by the like applications as are prescribed in the spavin. See the article **SPAVIN**.

CURCULIO, in zoology, a genus of beetles, distinguished from the other kinds, by having the antennæ affixed to a long horny rostrum, or snout: of these there are several species enumerated by authors.

CURCUMA, **TURMERIC**, in botany, a genus of the monandria-monogynia class of plants, the tube of whose corolla, being monopetalous, is narrow; its limb is divided into three segments, which are of a

lanceolated figure, and patent; the nectarium is composed of a single leaf, of an ovated, but pointed figure; it is larger than the segments of the petal, and is inserted into the larger sinus made by its opening: the fruit is a roundish capsule, composed of three valves, and containing three cells, in each of which there are a great number of seeds. See the article **TURMERIC**.

CURDISTAN, a province of Persia, having Turcomania, or Armenia, on the north, and Eyraca Arabic, or Chaldaea, on the south.

CURDLING, the coagulating any fluid body, especially milk.

It is said that, at Florence, they curdle their milk, for the making of cheese, with artichoke-flowers, instead of the rennet used among us, for that purpose. The milk of women newly delivered is apt to curdle in their breasts, which occasions violent pains. It arises from the want of being sucked, whence the cure and prevention of this disorder is easily effected.

CURE of souls, a benefice in the christian church, the incumbent whereof has the direction of consciences within a parish.

This right is by the canonists called a *cure in foro interiore tantum*, to distinguish it from a *cure in foro exteriore*, such as arch-deacons, &c. have.

CURETES, in antiquity, a sort of priests called also corybantes, being, as some relate, the same with what the druids and bards were afterwards among the Gauls. They are said to have been originally of Mount Ida in Phrygia; and to have been used to dance, at the noise of tabors and castanetta's.

CURFEW, or **COURFEW**, a signal given in cities, taken in war, &c. to the inhabitants to go to bed. Pasquin says, it was so called, as being intended to advertise the people, to secure themselves from the robberies and debaucheries of the night.

The most eminent curfew in England was that established by William the conqueror, who appointed, under severe penalties, that, at the ringing of a bell, at eight o'clock in the evening, every one should put out their lights and fires, and go to bed: whence to this day, a bell, rung about that time, is called a curfew-bell.

CURIA, in roman antiquity, a certain division, or portion of a tribe. Romulus divided the people into thirty curiæ,

or wards, whereof there were ten in every tribe, that each might keep the ceremonies of their feasts and sacrifices in the temple, or holy place, appointed for every curia. The priest of the curia was called curio. See the article CURIO.

CURIA, in the english law, generally signifies a court; and has been taken for the customary tenants, who do their suit and service at the court of the Lord. See the article COURT.

CURIA aquæ curfus, a court held by the lord of the manor of Gravesend, for the better management of borges and boats that use the passage on the Thames, between that place and London, &c.

CURIA CLAUDENDA, a writ that lies, to compel a man to make a fence, or wall, between his lands and that of the plaintiff.

CURIA DOMINI, signifies the Lord's house, hall, or court, where all the tenants attend at the time of holding courts.

CURIA PENTICIARUM, a court held by the sheriff of Chester in a place there, called the Pendice, or Pentice.

CURIASS, or **CURIASSE**. See the article CURIASSE.

CURING, a term used for the preserving fish, flesh, and other animal substances, by means of certain additions of things, to prevent putrefaction. One great method of doing this, is by smoking the bodies with the smoke of wood, or rubbing them with salt, nitre, &c.

CURIO, in roman antiquity, the chief and priest of each curia, or ward, whose business was to officiate at the sacrifices of the curia, called curionia, and provide for them, the curia furnishing him with a sum of money on that consideration. See the article CURIA.

CURLED LEAF, the same with crisp leaf. See plate LXIV. fig. 3. and the article CRISP.

CURLEW, in ornithology, the english name of the numenius, with an arcuated beak, and black wings with white spots. See the article NUMENIUS.

CURRANS, or **CURRENTS**, the fruit of a species of grossularia. See the article GROSSULARIA.

The white and red sort are mostly used, for the black, and chiefly the leaves, upon first coming out, are in use to flavour english spirits, and counterfeit french brandy. Currans greatly assuage drought, cool and fortify the stomach, and help digestion.

CURRENTS also signify a smaller kind of

grapes brought principally from Zant and Cephalonia. They are gathered off the bunches, and laid to dry in the sun, and so put up in large butts. They are opening and pectoral, but are more used in the kitchen, than in medicine.

Currents the hundred weight pay on importation 1l. 2s. 1 $\frac{3}{4}$ d. and draw back on exportation 1l. 0s. 7 $\frac{3}{4}$ d.

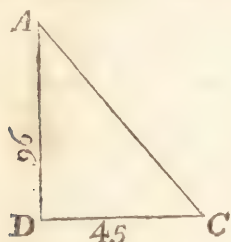
If imported in venetian ships, they pay the 112 $\frac{1}{2}$ lb. 1l. 3s. 7 $\frac{3}{4}$ d. and draw back 1l. 1s. 8 $\frac{1}{4}$ d. In other foreign bottoms they pay 1l. 7s. 4 $\frac{1}{4}$ d. and draw back 1l. 3s. 6 $\frac{1}{4}$ d.

CURRENT, in hydrography, a stream or flux of water in any direction. In the sea, they are either natural, occasioned by the diurnal motion of the earth round its axis, or accidental caused by the water's being driven against promontories, or into gulphs and streights, where wanting room to spread they are driven back, and thus disturb the ordinary flux of the sea. Dr. Halley makes it highly probable that in the Downs, there are under currents, by which as much water is carried out as is brought in by the upper currents.

CURRENTS in navigation, are certain settings of the stream, by which ships are compelled to alter their course or velocity, or both, and submit to the motion impressed upon them by the current. The knowledge of them being so necessary an article in navigation, we shall shew a more accurate way of discovering the way they set, together with their strength, than that of guessing by the ripples of the water, and by the driving of the froth along shore. Take your ship's boat, with three or four men, a compass, a log line with a large log to it, and a kettle or iron pot with a quail or two of inch rope fastened to its bale. When at a proper distance from the ship, heave your kettle overboard, and let it sink eighty or a hundred fathom, which will ride the boat nearly as fast as if at anchor. Heave your log, and turn your half minute glass, observing at the same time, to set the drift of the log by the compass, then will the knots run out during the half minute, give the current's strength, and the compass its setting. Now to know how to make proper allowances for currents, it is evident, if a current sets just with the course of the ship, then the motion of the ship is increased by as much as is the drift or velocity of the current,

current. And if a current sets directly against the ship's course, then the motion is retarded in proportion to the velocity of the current. Hence it is plain, 1. If the velocity of the current be less than that of the ship, then the ship will get so much a head, as is the difference of these velocities. 2. If the velocity of the ship, then the ship will fall so much astern as is the difference of these velocities. 3. If the velocity of the current be equal to that of the ship, then the ship will stand still, the one velocity destroying the other.

If the current thwarts the course of a ship, then it not only lessens or augments her velocity, but gives her a new direction compounded of the course she steers, and the setting of the current. Suppose a ship sails by the compass directly south, 96 miles in 24 hours, in a current that sets east 45 miles in the same time. Required the ship's true course and distance. To solve the problem, geometrically, draw AD to represent the south and north line of the ship at A equal to 96: from D draw DC perpendicular to AD equal to 45, and join AC.



Then C will be the ship's true place, AC her true distance, and the angle CAD the true course. To find which, trigonometrically say, As AD the apparent distance is to DC, the current's motion, so is the radius to the tangent of the true course DAC. Consequently the ship's true course in the present case will be found S. S. E. $2^{\circ} 37'$ easterly. Then for the true distance AC, it will be as the sine of the course A: is to the departure DC: : radius: to the true distance AC = 106 miles.

Again, suppose a ship sails south east 120 miles in 20 hours, in a current that sets west by north, at the rate of two miles an hour; required the ship's true course and distance sailed in that time. To solve this geometrically. Having drawn the compass, N. E. S. W. (plate LXII.

fig. 6.) let C represent the place the ship sailed from, draw the south east line CA, which make equal to 120, then will A be the place the ship sailed at. From A draw AB parallel to the W. by N. line, CD, and equal to 40, the motion of the current in 20 hours, and join CB; then B will be the ship's true place at the end of twenty hours, CB her true distance, and the angle SCB her true course. To solve it trigonometrically. In the triangle ABC are given CA 120, AB 40, and the angle CAB equal to $34^{\circ} 45'$, the distance between the E. by S. and S. E. lines; whence the angles B and C will be found by case 4th of oblique trigonometry, thus $B = 131^{\circ} 52'$, and the angle ACB = $14^{\circ} 23'$. Hence the true course is S. S. E. $2^{\circ} 7'$ easterly. Then for the true distance CB, it will be found by case 2d of oblique trigonometry equal to 89.53 miles. See the articles TRIANGLE, TRIGONOMETRY, COMPASS, &c.

CURRIERS, those who dress and colour leather after it comes from the tan-yard. Persons in London putting leather to be carried to any but freemen of the curriers company, and such curriers not currying the leather sufficiently, shall forfeit the wares or the value of them. And by 12 George II. cap. xxv. Curriers are to curry leather sent to them, in sixteen days between Michaelmas and Lady-day, and in eight days the rest of the year, or shall forfeit 5l. on conviction before a justice of peace.

CURRYING, the method of preparing leather with oil, tallow, &c.

The chief business is to soften and supple cows and calves skins, which make the upper leathers and quarters of shoes, coverings of saddles, coaches, and other things which must keep out water.

1. These skins, after coming from the tanner's yard, having many fleshy fibres on them, the currier soaks them some time in common water. 2. He takes them out and stretches them on a very even wooden horse; then with a paring knife, he scrapes off all the superfluous flesh, and puts them in to soak again. 3. He puts them wet on a hurdle, and tramples them with his heels, till they begin to grow soft and pliant. 4. He soaks them in train oil, which, by its unctuous quality, is the best liquor for this purpose. 5. He spreads them on large tables, and fastens them at the ends. There with the help of an instrument

strument called a pummel, which is a thick piece of wood, the under side whereof is full of furrows crossing each other, he folds, squeezes, and moves them forwards and backwards several times, under the teeth of this instrument, which breaks their too great stiffness. This is what is properly called currying. The order and number of these operations is varied by different curriers, but the material part is always the same. 6. After the skins are curried, there may be occasion to colour them. The colours are black, white, red, yellow, green: the other colours are given by the skimmers, who differ from curriers in this, that they apply their colours on the flesh side; the curriers on the hair side. In order to whiten skins, they are rubbed with lumps of chalk, or white lead, and afterwards with pumice-stone. 7. When a skin is to be made black, after having oiled and dried it, he passes over it a puff dipt in water impregnated with iron, and after this first wetting, he gives it another in a water prepared with foot, vinegar, and gum arabic. These different dyes gradually turn the skin black, and the operations are repeated till it be of a shining black. The grain and wrinkles which contribute to the suppleness of calves and cows leather, are made by the reiterated folds given to the skin in every direction, and by the care taken to scrape off all hard parts on the coloured side.

CURSITOR, a clerk belonging to the court of chancery, whose business it is to make out original writs. In the statute 18 Edw. III. they are called clerks of course, and are twenty-four in number, making a corporation of themselves. To each of them is allowed a division of certain counties, into which they issue out the original writs required by the subject.

CURSOR, in mathematical instruments, is any small piece that slides, as the piece in an equinoctial ring-dial that slides to the day of the month; the little label of brass divided like a line of fines, and sliding in a groove along the middle of another label, representing the horizon in the analemma; and likewise a brass point screwed on the beam-compasses, which may be moved along the beam for the striking of greater or less circles. See the articles

ANALEMMA, Beam COMPASSES, &c.

CURTAILING, in farriery, is the docking or cutting off a horse's tail.

This practice is no where so much used as in England, it being a popular opinion, that the taking away the tail, makes the horse's chine or back much stronger, and more able to support a burden.

CURTATE DISTANCE, in astronomy, the distance of a planet from the sun to that point where a perpendicular let fall from the planet meets with the ecliptic.

CURTATION, in astronomy, is the interval between a planet's distance from the sun, and the curtate distance.

CURTESY, or *COURTESY*. See the article *COURTESY*.

CURTEYN, *curtana*, in the british customs, king Edward the confessor's sword, borne before the prince at coronations: its point is said to be broken off, as an emblem of mercy.

CURTIN, *CURTAIN*, or *COURTIN*, in fortification, is that part of the rampart of a place which is betwixt the flanks of two bastions bordered with a parapet five feet high, behind which the soldiers stand to fire upon the covered way, and into the moat. As it is the best defended of any part of the rampart, besiegers never carry on their attacks against the curtin, but against the faces of the bastions, because of their being defended only by one flank.

Angle of the CURTIN, that contained between the curtin and the flank.

Complement of the CURTIN. See the article *COMPLEMENT*.

CURVATOR COCCYGIS, in anatomy, a name given by Albinus to a muscle of the coccyx, discovered by himself, and not described by any other author.

It arises with a double head, one from the inner and the other from the lower and lateral part of the os sacrum; and descending, terminates in three extremities: He gave the name from its office, which is the bending the coccyx.

CURVATURE of a line, is the peculiar manner of its bending or flexure by which it becomes a curve of such and such peculiar properties.

Any two arches of curve lines touch each other when the same right line is the tangent of both at the same point; but when they are applied upon each other in this manner, they never perfectly coincide, unless they are similar arches of equal and similar figures: and the curvature of lines admit of indefinite variety. Because the curvature is uniform in a given circle, and may be varied at pleasure in them, by enlarging or diminishing their

diameters : the curvature of circles serves for measuring that of other lines.

Of all the circles that touch a curve in any given point, that is said to have the same curvature with it, which touches it so closely, that no circle can be drawn through the point of contact between them. And this circle is called the circle of curvature ; its center, the center of curvature ; and its semidiameter, the ray of curvature belonging to the point of contact. As in all figures, rectilinear ones excepted, the position of the tangent is continually varying ; so the curvature is continually varying in all curvilinear figures, the circle only excepted. As the curve is separated from its tangent by its curvature, so it is separated from the circle of curvature in consequence of the increase or decrease of its curvature : and as its curvature is greater or less, according as it is more or less inflected from the tangent, so the variation of curvature is greater or less, according as it is more or less separated from the circle of curvature.

When any two curve lines touch each other in such a manner that no circle can pass between them, they must have the same curvature ; for the circle that touches the one so closely that no circle can pass between them, must touch the other in the same manner. And it can be made appear, that circles may touch curve lines in this manner ; that there may be indefinite degrees of more or less intimate contact between the curve and the circle of curvature ; and that a conic section may be described that shall have the same curvature with a given line at a given point, and the same variation of a curvature, or a contact of the same kind with the circle of curvature. The rays of curvature of similar arches, in similar figures, are in the same ratio as any homologous lines of these figures, and the variation of curvature is the same. See the article CURVE.

CURVE, in geometry, a line which running on continually in all directions, may be cut by one right line in more points than one.

Curves are divided into algebraical or geometrical and transcendental.

Geometrical or algebraical curves are those whose ordinates and abscissas being right lines, the nature thereof can be expressed by a finite equation having those ordinates and abscissas in it.

Transcendental curve, is such as when

expressed by an equation, one of the terms thereof is a variable quantity. See the article TRANSCENDENTAL.

Geometrical lines or curves are divided into orders, according to the number of dimensions of the equation expressing the relation between the ordinates and abscissas, or according to the number of points, by which they may be cut by a right line. So that a line of the first order, will be only a right line expressed by the equation $y + ax + b = 0$. A line of the second or quadratic order, will be the conic sections and circle whose most general equation is $y^2 + ax + b \times y + cx^2 + dx + e = 0$. A line of the third order, is that whose equation has three dimensions, or may be cut by a right line in three points, whose most general equation is $y^3 + ax + b \times y^2 + cx^2 + dx + e \times y + fx^3 + gx^2 + bx + k = 0$. A line of the fourth order, is that whose equation has four dimensions, or which may be cut in four points by a right line, whose most general equation is $y^4 + ax + b \times y^3 + cx^2 + dx + e \times y^2 + fx^3 + gx^2 + bx + k \times y + lx^4 + mx^3 + nx^2 + px + q = 0$. And so on.

And a curve of the first kind (for a right line is not to be reckoned among curves) is the same with a line of the second order ; and a curve of the second order, the same as a line of the third ; and a line of an infinite order, is that which a right line can cut in an infinite number of points, such as a spiral, quadratrix, cycloid, the figures of the lines, tangents, secants, and every line which is generated by the infinite revolutions of a circle or wheel.

For the various curves of the first order and their properties, see the articles CONIC-SECTIONS, PARABOLA, HYPERBOLA, ELLIPSIS, &c.

As to the curves of the second order, Sir Isaac Newton observes they have parts and properties similar to those of the first : thus as the conic-sections have diameters and axes, the lines cut by these are called ordinates, and the intersection of the curve and diameter, the vertex ; so in curves of the second order, any two parallel lines being drawn so as to meet the curve in three points, a right line cutting these parallels so as that the sum of the two parts between the secant and the curve on one side, is equal to the third part terminated by the curve on the other side, will cut in the same manner all other

Fig. 1. COTISE



Fig. 2. COUNTER-
CHANGED, COMPOUND, Ermine



N^o 1.



N^o 2.



N^o 3.

Fig. 3. CRAMPONÉE



Fig. 4. CRENELLE



Fig. 5. CROSSELETS



N^o 1.



N^o 2.

Fig. 6. CURRENT

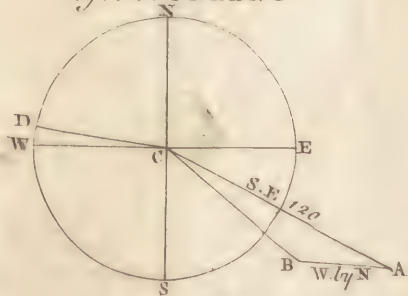


Fig. 7. CURVE

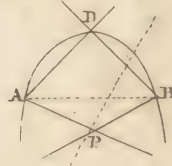
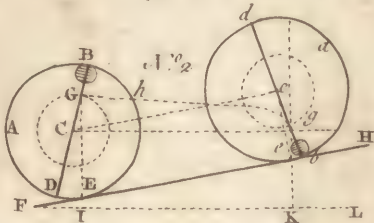


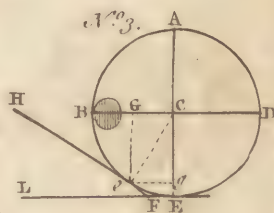
Fig. 8. CYLINDERS



N^o 1.



N^o 2.



N^o 3.



other right lines parallel to these, and meet the curve in three parts, so as that the sum of the two parts on one side will be still equal to the third part on the other side.

These three parts, therefore, thus equal, may be called ordinates or applicates: the secant may be stiled the diameter; the intersection of the diameter and the curve, the vertex; and the point of concurrence of any two diameters, the center. And if the diameter be normal to the ordinates, it may be called axis; and that point where all the diameters terminate, the general center. Again, as an hyperbola of the first order has two asymptotes; that of the second, three; that of the third, four, &c. and as the parts of any right line lying between the conic hyperbola and its two asymptotes are every where equal, so in the hyperbola of the second order, if any right line be drawn cutting both the curve and its three asymptotes in three points, the sum of the two parts of that right line being drawn the same way from any two asymptotes to two points of the curve, will be equal to a third part drawn a contrary way from the third asymptote to a third point of the curve. Again, as in conic sections not parabolical, the square of the ordinate, that is the rectangle under the ordinates drawn to contrary sides of the diameter, is to the rectangle of the parts of the diameter which are terminated at the vertices of the ellipse or hyperbola, as the latus rectum is to the latus transversum; so in non-parabolic curves of the second order, a parallelopiped under the three ordinates is to a parallelopiped under the parts of the diameter, terminated at the ordinates, and the three vertices of the figure, in a certain given ratio: in which ratio, if you take three right lines situated at the three parts of the diameter between the vertices of the figure, one answering to another, then these three right lines may be called the latera recta of the figure, and the parts of the diameter between the vertices, the latera transversa. And as in the conic parabola, having to one and the same diameter but one only vertex, the rectangle under the ordinates is equal to that under the part of the diameter cut off between the ordinates and the vertex, and the latus rectum; so in curves of the second order, which have but two vertices to the same diameter, the parallelopiped under three ordinates, is

equal to the parallelopiped under the two parts of the diameter, cut off between the ordinates and those two vertices and a given right line, which therefore may be called the latus rectum. Moreover, as in the conic sections, when two parallels terminated on each side of the curve, are cut by two other parallels terminated on each by the curve, the first by the third, and the second by the fourth; as here the rectangle under the parts of the first, is to the rectangle under the parts of the third; as the rectangle under the parts of the second, is to that under the parts of the fourth; so when four such right lines occur in a curve of the second kind, each in three points, then shall the parallelopiped under the parts of the first right line, be to that under the parts of the third; as the parallelopiped under the parts of the second line, to that under the parts of the fourth. Lastly, the legs of curves, both of the first, second, and higher kinds, are either of the parabolic or hyperbolic kind: an hyperbolic leg being that which approaches infinitely towards some asymptote; a parabolic, that which has no asymptote. These legs are best distinguished by their tangents; for if the point of contact go off to an infinite distance, the tangent of the hyperbolic leg will coincide with the asymptote; and that of the parabolic leg recede infinitely and vanish. The asymptote, therefore, of any leg, is found by seeking the tangent of that leg to a point infinitely distant; and the bearing of an infinite leg, is found by seeking the position of a right line parallel to the tangent, when the point of contact is infinitely remote: for this line tends the same way towards which the infinite leg is directed. For the other properties of curves of the second order, we refer the reader to Mr. Maclaurin's treatise de linearum geometricarum proprietatibus generalibus.

Sir Isaac Newton reduces all curves of the second order to the four following particular equations, still expressing them all. In the first, the relation between the ordinate and the abscisse, making the abscisse x and the ordinate y , assumes this form $xy^2 + cy = ax^3 + bx^2 + cx + d$. In the second case, the equation takes this form $xy = ax^3 + bx^2 + cx + d$. In the third case, the equation is $y^2 = ax^3 + bx^2 + cx + d$. And in the fourth case, the equation is of this form $y = ax^3 + bx^2 + cx + d$. Under these four cases,

the same author enumerates seventy-two different forms of curves, to which he gives different names, as ambigenal, cuspidated, nodated, &c. See AMBIGENAL, CUSPIDATED, NODATED.

Of these seventy two curves, nine are redundant hyperbolas without diameters, having three asymptotes including a triangle; twelve are redundant hyperbolas with only one diameter; two are redundant hyperbolas with three diameters; nine are redundant hyperbolas with three asymptotes, converging to a common point; six are deficient hyperbolas having no diameters; seven are defective hyperbolas having a diameter; seven are parabolic hyperbolas having no diameter; four are parabolic hyperbolas which have a diameter; four are hyperbolisms of the hyperbola; three are hyperbolisms of the ellipse; two are hyperbolisms of the parabola; one a trident; five are diverging parabolas; and one a cubical parabola.

Besides these, Mr. Stirling found out four more species of redundant hyperbolas, and Mr. Stone two more of the deficient hyperbolas.

Genesis of CURVES of the second order by shadows. If (says Sir Isaac Newton) upon an infinite plane illuminated from a lucid point the shadows of figures be projected, the shadows of the conic sections will be always conic sections; those of the curves of the second kind, will be always curves of the second kind; those of the curves of the third kind, will be always curves of the third kind, and so on *in infinitum*. And as a circle by projecting its shadow generates all the conic sections, so the five diverging parabolas by their shadows, will generate and exhibit all the rest of the curves of the second kind: and so some of the most simple curves of the other kinds may be found which will form by their shadows upon a plane, projected from a lucid point, all the rest of the curves of that same kind.

CURVES of the second order having double

points. As curves of the second order may be cut by a right line in three points; and as two of these points are sometimes coincident, these coincident intersections, whether at a finite or an infinite distance, are called the double point. And such curves as have this double point, may be described by the following theorems, 1. If two angles PAD , PBD (plate LXII. fig. 7.) whose magnitude is given, revolve round the poles A and B given also in position, and their legs AP , BP with their point of concurrence P pass over another right line: the other two legs AD , BD with their point of concurrence D , will describe a conic section passing through the poles A , B , except where that line happens to pass through either of the poles A or B , or when the angles BAD , ABD vanish together, in which cases the point will describe a right line. 2. If the legs AP , BP by their point of concurrence P describe a conic section passing through one of the poles A ; the other two AD , BD , with their point of concurrence D , will describe a curve of the second kind passing through the other pole B , and having a double point in the first pole A , unless the angles BAD , ABD vanish together; in which case the point D will describe another conic section passing through the pole A . 3. But if the conic section, described by the point P , pass through neither of the poles A , B , the point D will describe a curve of the second or third kind, having a double point: which double point will be found in the concurrence of the describing legs AD , BD , when the two angles BAP , ABP vanish together. And the curve described will be of the second kind when the angles BAD , ABD vanish together; otherwise it will be of the third kind, having two other double points in the poles A and B . See Mr. Maclaurin's *Organica Geometria*. The general equation of all curves of the third kind, may be reduced to the following ten particular equations.

$$\left. \begin{array}{l} 1. y^4 + fx^2y^2 + gxy^3 + bx^2y + iy^2 + kxy + ly \\ 2. y^4 + fxy^3 + gx^2y + bxy^2 + ixy + ky \\ 3. x^2y^2 + fy^3 + gx^2y + by^3 + ky \\ 4. x^2y^2 + fy^3 + gy^2 + bxy + iy \\ 5. y^3 + fxy^2 + gx^2y + by \\ 6. y^3 + fxy^2 + gxy + by \\ 7. y^4 + ex^3y + fxy^3 + gx^2y + by^2 + ixy + ky \\ 8. x^3y + exy^3 + fx^2y + gy^2 + bxy + iy \\ 9. x^3y + ey^3 + fxy^2 + gxy + by \\ 10. x^3y + ey^3 + fy^2 + gxy + by \end{array} \right\} = ax^4 + bx^3 + cx^2 + dx + e.$$

$$\left. \begin{array}{l} 7. y^4 + ex^3y + fxy^3 + gx^2y + by^2 + ixy + ky \\ 8. x^3y + exy^3 + fx^2y + gy^2 + bxy + iy \\ 9. x^3y + ey^3 + fxy^2 + gxy + by \\ 10. x^3y + ey^3 + fy^2 + gxy + by \end{array} \right\} = ax^3 + bx^2 + cx + d.$$

As it is a difficult matter to understand the nature, properties, and numbers of the curves of the second and third kinds, how much more so must it be to attain to a glimpse of that infinite number and variety expressed by the equations of the succeeding higher dimensions, not to mention the infinite number of curves which do not lie in the same plane. Those who have a mind to see how far this doctrine has been advanced, with regard to the curves of the higher kinds, may consult Mr. Maclaurin's treatise above-mentioned, and Mr. Brackonridge's *Exercitatio Geometrica de Curvarum descriptione*.

The use of these curves in geometry, is to solve problems by their intersections, and to construct equations. See the article CONSTRUCTION.

Caustic CURVE. See CAUSTIC.

Diacoustic CURVE. See DIACAUSTIC.

Exponential CURVE, that defined by an equation wherein is an exponential quantity, as $x^x a^x$, &c.

Family of CURVES, according to Wolfius, is a congeries of several curves of different kinds, all defined by the same equation of an indeterminate degree; but differently, according to the diversity of their kinds. For example: let the equation of

an indeterminate degree be $a^{m-1}x=y^m$. If $m=2$, ax will be equal to y^2 . If $m=3$, then will $a^2x=y^3$. If $m=4$, then will $a^3x=y^4$, &c. all which curves are said to be of the same family. The equations, however, by which the families of curves are defined, must not be confounded with transcendental ones; tho' with regard to the whole family they be of an indeterminate degree, yet with respect to each several curve of the family, they are determinate; whereas transcendental equations are of an indefinite degree with respect to the same curve.

Inflection of a CURVE. See INFLECTION.

Quadrature of a CURVE, the assigning a square equal to a curvilinear space. See the article QUADRATURE.

Logarithmic CURVE. See LOGARITHMIC.

Mechanical CURVE. See MECHANICAL.

Regular CURVE. See REGULAR.

Rectification of a CURVE, the finding a right line equal to a curve, for the praxis of which see RECTIFICATION, &c.

Characteristic triangle of a CURVE. See the article CHARACTERISTIC.

The genesis and properties of particular

curves, as the conchoid, cycloid, &c. see under their proper heads, CONCHOID, CYCLOID, &c.

CURVET, or CORVET, in the manege, an air in which the horse's legs are raised higher than in the demi-volt; being a kind of leap up, and a little forwards, wherein the horse raises both his fore-legs at once, equally advanced, (when he is going straight forward and not in a circle) and as his fore-legs are falling, he immediately raises his hind-legs, equally advanced, and not one before the other: so that all his four legs are in the air at once; and as he sets them down, he marks but twice with them.

CURVIROSTRA, in ornithology, a species of loxia, with the two chaps bent and crossing each other; whence its english name cross-beak. See LOXIA.

CURVIROSTRA, in natural history, a name given to those fossile cockles which have their beak standing not in the middle of the shell, but inclining to one or the other side.

CURULE CHAIR, in roman antiquity, a chair adorned with ivory, wherein the great magistrates of Rome had a right to sit, and be carried.

The curule magistrates were the ædiles, the prætors, censors, and consuls. This chair was fitted in a kind of chariot, whence it had its name. The senators who had borne the offices of ædiles, prætors, &c. were carried to the senate-house in this chair, as were also those who triumphed, and such as went to administer justice, &c. See ÆDILE, &c.

CURULE STATUE. See the article STATUE.

CUSCO, the capital city of Peru, during the reigns of the incas: it is still a fine city, and the see of a bishop, and stands about 350 miles east of Lima, in 70° west long. and 13° south lat.

CUSCUTA, DODDER, in botany, a genus of the tetrandria-digynia class of plants, whose corolla consists of a single, ovated petal, a little longer than the cup, divided into four obtuse segments at the mouth; the pericarpium is fleshy, roundish, and bilocular, opening horizontally: the seeds are two. See plate LXIV. fig. 4.

The antients recommended it as a purge; however, we esteem it more as an attenuant and aperient in obstructions of the viscera, in jaundices, dropies, and other chronic diseases.

CUSHION, a soft handsome pillow for persons to sit or lean upon.

CUSP,

CUSP, in astronomy, a term used to express the points or horns of the moon, or other luminary.

CUSPIDATED PLANTS, in botany, are such plants whose leaves are pointed like a spear.

CUSPIDATED HYPERBOLA, that whose points concur in the angle of contact, and there terminate. See **HYPERBOLA**.

CUSTODE ADMITTENDO, and **CUSTODE AMOVENDO**, are writs for the admitting or removing of guardians. See the article **GUARDIAN**.

CUSTOM, a very comprehensive term, denoting the manners, ceremonies, and fashions of a people, which having turned into a habit, and passed into use, obtains the force of laws; in which sense it implies such usages, as, though voluntary at first, are yet, by practice, become necessary.

Custom is hence, both by lawyers and civilians, defined *lex non scripta*, a law, or right, not written, established by long usage, and the consent of our ancestors: in which sense it stands opposed to the *lex scripta*, or the written law.

As no law can bind people without their consent, so, wherever that is had, and a certain rule used as a law, such rule gives it the force of a law; and if it be universal, then it is common law: but if restrained to this or that particular place, it is custom.

Custom had its beginning, and received the sanction of the law, thus: when a reasonable act, once done, was found to be beneficial to the people, then they had frequent recourse to it; and by repetitions thereof, it became a custom, which being continued *ultra tritavum*, time out of mind, without any interruption, it obtained the power of a law, and binds the places, persons, and things concerned therein.

All customs ought to have a reasonable commencement, be certain, not ambiguous, have uninterrupted continuance, and not be against the king's prerogative: these are incidents inseparable: yet a custom is not unreasonable for being injurious to private persons and interests, so as it tends to the general advantage of the people: but if any custom be contrary to the public good, or if it injures a multitude, and benefits only some certain persons, such a custom is repugnant to the laws of reason, and consequently void. Custom must always be alledged in many persons; and so it may be claim-

ed by copyholders, or the inhabitants of a place, as within such a county, hundred, city, borough, manor, parish, &c. but regularly they shall not alledge a custom against a statute: nor may custom be pleaded against custom; though acts of parliament do not always take away the force of customs. The general customs used throughout England, being the common law, are to be determined by the judges, who can over-rule a custom that is against natural reason, &c. but particular customs are determinable by jury. See the article **PRESCRIPTION**.

CUSTOM of London. It is a custom of London, that where a person is educated in one trade, he may set up another; that where a woman uses a trade, without her husband, she is chargeable alone, as a *feme sole* merchant, and if condemned, shall be put in prison till she pays the debt; likewise the bail for her are liable, if she absent herself, and the husband, in these cases, shall not be charged. If a debtor be a fugitive, by the custom of London, he may be arrested before the day, in order to find better security, &c. These are customs of this city, different from those of other places.

CUSTOM of merchants. If a merchant gives a character of a stranger to one who sells him goods, he may be obliged to satisfy the debt of the stranger for the goods sold, by the custom of merchants. And when two persons are found in arrears, upon an account grounded on the custom of merchants, either of them may be charged to pay the whole sum due, &c.

CUSTOMS, in commerce, the tribute or toll, paid by merchants to the king, for goods exported or imported: they are otherwise called duties. See **DUTY**.

Customs are said to be due to the king of common right: first, because the subject has leave to depart the kingdom, and to export the commodities thereof: secondly, because of the interest that the king has in the sea; that he is guardian of, and maintains all the ports, where the commodities are exported or imported: and, lastly, because the king protects merchants from enemies and pirates. Besides the king's title to customs by common right, certain tonnage and poundage duties are, by act of parliament, granted him on wines, and all merchandize, goods, &c. The word customs comprehends *magna & antiqua customa*, payab custom of our own native com-

commodities, as wool, leather, &c. and *parva custuma*, are customs payable by merchants, strangers, and denizens: these began in the reign of king Edward I. when the parliament granted him 3d. in the pound for all merchandizes exported and imported.

Anno 6 Edward III. it was enacted, that no new customs could be levied, nor old ones increased, but by authority of parliament. But though the king cannot lay new duties on merchandizes, without consent of parliament, yet, by his prerogative, he may restrain merchants from trading, without his royal licence.

In case goods and merchandise are brought by a merchant to a port or haven, and there part of the goods are sold, but never landed, they must nevertheless pay the customs. Ships outward bound, and coming from beyond sea, having goods or merchandise on board, are to be entered at the custom-house, and the customs paid, or agreed for, under penalties and forfeiture of the goods: one moiety to the king, the other to the seizer, &c. 12 Ch. II. cap. 4. And by other statutes, since made, foreign goods, taken in at sea by any other coasting vessel, &c. and run goods concealed, shall be forfeited, and treble value: and to prevent clandestine running of goods, if any foreign brandy, &c. is imported in vessels under forty tuns, the importers shall forfeit the vessel and brandy, 8 and 11 Geo. I. Where three persons are assembled, and armed with fire-arms, &c. to be assisting in running goods, they shall be adjudged guilty of felony. Also two or more in company, found passing within five miles of the sea-coast, with any horses, carts, &c. whereon are put above six pounds of tea, or five gallons of brandy, or other foreign goods, of 30l. value, landed without entry, and not having permits, who shall carry any offensive weapons, &c. or assault any officer of the customs, shall be deemed runners of goods, be treated as felons, and the goods seized and forfeited. If any person offers any tea, brandy, &c. to sale, without a permit, the persons to whom offered may seize and carry it to the next warehouse belonging to the customs or excise, and shall be entitled to a third part of the produce on condemnation, &c. 9 Geo. II. cap. 35.

The customs of goods exported and imported throughout England, are said to

amount yearly to 1,300,000l: whereof those of the port of London make one third part, some say, two thirds. The customs of England are very numerous, and very high; the principal are the duties of tonnage and poundage. See the articles TONNAGE and POUNDAGE.

CUSTOM-HOUSE, an office established by the king's authority in maritime cities, or port towns, for the receipt and management of the customs and duties of importation and exportation, imposed on merchandises, and regulated by books of rates.

There are several custom-houses in the several ports of England, but the most considerable is that of London. It is under the direction of commissioners, appointed by patent, who have the charge and management of all the customs in all the ports of England. Other officers are a secretary, solicitor, receiver-general, comptroller-general, surveyor-general, &c. all holding their places by patents, with other inferior officers, appointed by warrant from the board of the treasury.

CUSTOM-OFFICERS shall not have any ships of their own, nor may they use merchandise, factorage, nor keep a tavern, &c. They are prohibited to trade in brandy, coffee, &c. or any exciseable liquor, on pain of 50l. For taking a bribe they shall forfeit 100l. and 500l. for making collusive seizures, &c.

Every merchant, making an entry of goods, either inwards or outwards, shall be dispatched in such order as he cometh; and if any officer, or his clerk, shall, for favour or reward, put any merchant or his servant, duly attending to make entries, by his turn, to draw any reward or gratuity from him, besides what is limited in the act of tonnage and poundage, &c. he shall be strictly admonished to his duty; or, if found faulty, he shall be discharged, and not permitted to sit any more in the custom-house. The officers who sit above in the custom-house of London, shall attend their several places, from nine to twelve in the forenoon; and one officer, or clerk, shall attend with the book, in the afternoon, during such time as the officers are appointed to wait at the water-side.

CUSTOMARY TENANTS, in law, such tenants as hold by the custom of the manor, as their special evidence. These were antiently bond-men, or such as held *tenura bondagii*.

CUSTOS BREVIUM, the principal clerk belonging to the court of common pleas, whose business it is to receive and keep all the writs made returnable in that court, filing every return by itself; and, at the end of each term, to receive of the prothonotaries all the records of the nisi prius, called the potheas.

The potheas are first brought in by the clerks of assize of every circuit to that prothonotary who entered the issue in the causes, in order to enter judgment; and after the prothonotary has entered the verdict and judgment thereupon into the rolls of the court, he delivers them over to the custos brevium, who binds them into a bundle. The custos brevium makes likewise entries of writs of covenant, and the concord upon every fine: by him also are made out exemplifications and copies of all writs and records in his office, and of all fines levied, which being engrossed, are divided between him and the chirographer, which last keeps the writ of covenant and the note; and the former the concord and foot of the fine. The custos brevium is made by the king's letters patent.

CUSTOS ROTULORUM, an officer who has the custody of the rolls and records of the sessions of peace, and also of the commission of the peace itself.

He usually is some person of quality, and always a justice of the peace, of the quorum, in the county where he is appointed. This officer is made by writing under the king's sign manual, being the lord chancellor's warrant to put him in commission. He may execute his office by a deputy, and is empowered to appoint the clerk of the peace, but he may not sell the place on divers penalties.

CUTICLE, *cuticula*, in anatomy, a thin membrane, closely lying upon the skin, or cutis, of which it seems a part, and to which it adheres very firmly, being assisted by the intervention of the corpus reticulare. See the article **RETICULARE CORPUS**.

The cuticula, in living subjects, separates from the skin in burns, and by means of blisters: the colour of it, in Europeans, is white, but black in many other nations. As to its structure and substance, it is composed of a multitude of very minute lamellæ, wherein are very numerous foraminula: the thickness of it is different in different parts of the body, but greatest in the soles of the feet, and

in the palms of the hands. The regeneration of the cuticle in living subjects is easy. All anatomists have failed in their attempts to find blood-vessels in the cuticle; the absence of which is the reason that it is without sensation. Its use is to defend the cutis from injury, from coming to contact with every thing, from dryness, and from pain, and finally to assist and at the same time to moderate the sense of feeling. See the next article.

CUTIS, the **SKIN**, in anatomy, a robust membrane, as thick as a piece of strong leather, extended over the whole surface of the body.

In this we are to consider the connection which is double, its upper surface adhering to the corpus reticulare and the cuticle, and its under surface to the fat. In some places this connection is but lax, in others it is very firm. The thickness of the cutis is very different in several parts of the body, and as different in the skins of different animals, as appears from the leather made from it, for common purposes. It has a multitude of sulci, or lines, which are common to it with the cuticle. It has foramina of two kinds in it; the larger, such as those of the mouth, nose, ears, and the like, tho' in effect the cutis may rather be said to be reflected, than perforated, in those parts; and the smaller, called pores: and these again are of different sizes, some larger, some smaller, and serve to give passage to the hairs, to the transpiration, and to the sweat. The pores are very large in the nose, where the naked eye may see them. As to the substance and structure of the cutis, it is composed of a multitude of tendinous fibres, single, tenacious, and interwoven in a surprising manner; of a vast number of blood vessels, and of a great number of nerves, which constitute the pyramidal papillæ, and raise themselves through the pores of the corpus reticulare: these, when the cuticle is taken off, are very easily distinguishable in the palms of the hands and under the soles of the feet, and also at the ends of the fingers, where they constitute the primary organs of feeling. There are also the cutaneous miliary glands, serving for the excretion of the matters of perspiration. Finally may be remarked the folliculi, or the receptacula cutanea, supposed, by Heister, to be the same as are described by other anatomists under the name of sebaceous glands.

The uses of the skin are numerous: 1. To

To surround, cover, and defend the parts that lie underneath it. 2. To be the organ of feeling. 3. To be an universal emunctory to the body, cleansing the blood of its redundancies, by the means of sweat and perspiration: while these, at the same time, serve to prevent the aridity or dryness of the cutis itself.

CUTTER of the tallies, an officer of the exchequer, whose business is to provide wood for the tallies, to cut or notch the sum paid upon them; and then to cast them into court, to be written upon. See the article TALLY.

CUTTING, in coinage, the taking the planchers out of the laminæ, when they are reduced to the thickness of the species to be coined. See COINING.

CUTTING, in heraldry, is used for the dividing a shield into two equal parts, from right to left, parallel to the horizon, or in the fesse-way. It is also applied to the honourable ordinaries, and even to animals, when they are divided so as that one part is metal, the other colour: an ordinary is said to be cut, when it does not come to the full extremity of the shield.

CUTTING, or **INTERFERING**, in the manege, is when the feet of a horse interfere, or when, with the shoe of one hoof he beats off the skin from the pastern-joint of another foot. This is occasioned by bad shoeing, weariness, weakness, or not knowing how to go, whereby the feet entangle.

CUTTING, in painting, the laying one strong lively colour over another, without any shade or softening. The cutting of colours hath always a disagreeable effect.

CUTTING, in surgery, the operation of extracting the stone out of the human body by section. See the articles **STONE** and **LITHOTOMY**.

CUTTING in wood, a particular kind of sculpture, or engraving, denominated from the matter whereon it is employed. See the article **WOOD**.

CUTTINGS, or **SLIPS**, in gardening, the branches or sprigs of trees, or plants, cut or slipped off, to set again, which is done in any moist fine earth. The best time for this operation is from the middle of August to the middle of April; but when it is done, the sap ought not to be too much in the top, lest it die or decay before that part in the earth has root enough to support the top; neither must it be very dry or scanty, for the sap in the branches assists it to strike roots: if done in the spring, let them not fail of

water in the summer. In providing them, such branches as have burs, knobs, or joints, are to be cut off, two or three inches beneath the burs, &c. and the leaves are to be stripped off so far as they are placed in the earth, leaving no side-branch: small top sprigs, of two or three years growth, are the best for this operation.

CUTTLE-FISH, the english name of the sepia of ichthyologists, called by some the ink-fish. See the article **SEPIA**.

CUVETTE, or **CUNETTE**. See the article **CUNETTE**.

CUYO, a division of Chili, in South America.

CYANELLA, in botany, a genus of the hexandria monogynia class of plants, without any calyx; the corolla consists of six oblong, concave patent petals, cohering at the unguis; the fruit is a roundish trifurcated capsule, consisting of three valves, and containing three cells: the seeds are numerous and oblong.

CYANUS, the **BLUE-BOTTLE**, in botany, makes a distinct genus of plants, according to Tournefort, but is comprehended by Linnæus among the centaurea. See the article **CENTAUREA**.

This plant is an alexipharmic and uterine. It is said to be of use also in the king's evil, in palpitations of the heart; and a water distilled from it is of service in inflammations of the eyes, &c.

CYATHUS, in roman antiquity, a liquid measure, containing four ligulas, or $\frac{1}{4}$ a pint english wine-measure, being 0.469 $\frac{2}{3}$ solid inches. See **MEASURE**.

CYCAS, in botany, the name of a plant the characters of which are intirely unknown.

CYCLAMEN, **SOW-BREAD**, in botany, a genus of the pentandria-monogynia class of plants, the corolla of which consists of a single petal; the tube is subglobose, double the size of the cup; yet small and nutant; the limb is large, and turns upwards, and is divided into five ovato-lanceolate segments; the fruit is a roundish berry, opening in five or six places at the top, and containing only one cell; the seeds are numerous, roundish, and angular. See plate **LXV. fig. 2.**

The root is a powerful aperient and abstergent, is of use in obstructions of the menies, and in expelling a dead fœtus: but it is to be used with great caution.

CYCLE, $\mu\upsilon\kappa\lambda\omicron\varsigma$, in chronology, a certain period or series of years, which regularly proceed from the first to the last, and then return again to the first, and circulate perpetually. See the article **PERIOD**.

The most considerable cycles are those of the sun, of the moon, and of the roman indiction.

The *CYCLE of the sun* consists of twenty-eight years, which contain all the possible combinations of the dominical letters, in respect to their successive order, as pointing out the common years and leap-years; so that, after the expiration of the cycle, the days of the month return in the same order to the same days of the week, throughout the next cycle; except that upon every centesimal year, which is not a leap-year, the letters must always be removed one place forward, to make them answer to the years of the cycle; for instance, if the year 1800 were a leap-year, as every centesimal year is in the julian account, the dominical letters would be E D, and C would be the dominical letter of the next year: but as it is a common year in the gregorian ac-

count, D is the dominical letter of 1801, which answers to the eighteenth of the cycle, C to the nineteenth, &c. until the next centesimal year. See DOMINICAL LETTER.

To find the year of this cycle for any year of the christian æra, add 9 to the current year of Christ, because the cycle commenced nine years before the christian æra, and divide the sum by 28, the quotient will shew the number of cycles which have revolved since the beginning of that in which the christian æra commenced: and the remainder, if any, shews the current year of the cycle: but if there be no remainder, it shews that it is the last, or twenty-eighth year of the cycle.

The dominical letter of each year in this cycle, until the year 1800, appears by the following table.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|----|---|---|----|---|---|----|---|---|----|---|---|----|---|---|
| 1 | D | C | 5 | F | E | 9 | A | G | 13 | C | B | 17 | E | D | 21 | G | F | 25 | B | A |
| 2 | B | | 6 | D | | 10 | F | | 14 | A | | 18 | C | | 22 | E | | 26 | G | |
| 3 | A | | 7 | C | | 11 | E | | 15 | G | | 19 | B | | 23 | D | | 27 | F | |
| 4 | G | | 8 | B | | 12 | D | | 16 | F | | 20 | A | | 24 | C | | 28 | E | |

CYCLE of the moon, or *Lunar CYCLE*, called also the *golden number*, is a period of nineteen years, after which the new and full moons return on the same days of the months, only one hour twenty-eight minutes sooner: so that, on whatever days the new and full moon fall this year, they will happen nineteen years hence, on the same days of the months, except when a centesimal common year falls within the cycle, which will move the new and full moons a day later in the calendar than otherwise they would have fallen, inasmuch that a new moon which fell before the centesimal year, suppose on March 10, will fall nineteen years afterwards, on March 11. The number of years elapsed in this cycle is called the *prime*, from its use in pointing out the day of the new moon, *primum lune*, and the *golden number*, as deserving to be writ in letters of gold. See the article PRIME.

The golden numbers are those placed in the first column of the calendar, betwixt March 21, and April 18, both inclusive, to denote the days upon which those full moons fall, which happen upon, or next after, March 21, in those years of which they are respectively the golden numbers. See the article CALENDAR.

For finding the golden number, add one to the current year of our Lord, because one year of this cycle was elapsed before the christian æra began, and divide by

19, the remainder is the current year of this cycle, or golden number; but if nothing remains, it shews that it is the last year of the cycle, and consequently the golden number is 19.

CYCLE of the roman indiction, is a period of fifteen years, in use among the Romans, commencing from the third year before Christ. This cycle has no connection with the celestial motions; but was instituted, according to Baronius, by Constantine; who having reduced the time which the Romans were obliged to serve to fifteen years, he was consequently obliged, every fifteen years, to impose, or *indicere*, according to the latin expression, an extraordinary tax for the payment of those who were discharged; and hence arose this cycle.

To find the cycle of indiction for any given year, add 3 to the given year, and divide the sum by 15, the remainder is the current year of the cycle of indiction; if there be no remainder, it is the fifteenth or last year of the indiction.

These three cycles multiplied into one another, that is $28 \times 19 \times 15$, amount to 7980, which is called the *julian period*, after which the three foregoing cycles will begin again together. This period had its imaginary beginning 710 years before the creation, according to the common opinion among chronologers concerning the age of the world, and is not yet complete. It is much used in chronological

logical tables. See the articles EPOCHA and PERIOD.

CYCLIDIA, in zoology, a genus of animalcules of a roundish figure, without any limbs. See ANIMALCULE.

CYCLISCUS, in surgery, an instrument of the form of a half moon, used in scraping the skull, in case of fractures of that part. See FRACTURE.

CYCLOID, in geometry, a curve of the transcendental kind, called also the trochoid. It is generated in the following manner: if the circle CDH (plate LXV. fig. 1.) roll on the given straight line AB, so that all the parts of the circumference be applied to it one after another, the point C that touched the line AB in A, by a motion thus compounded of a circular and rectilinear motion, will describe the curve ACEB, called the cycloid, the properties of which are these: 1. If on the axis EF be described the generating circle EGF meeting the ordinate CK in G, the ordinate will be equal to the sum of the arc EG and its right sine GK; that is, CK will be equal to $EG + GK$. 2. The line CH parallel to the chord EG is a tangent to the cycloid in C. 3. The arch of the cycloid EL is double of the chord EM, of the corresponding arc of the generating circle EMF: hence the semicycloid ELB is equal to twice the diameter of the generating circle EF; and the whole cycloid ACEB is quadruple of the diameter EF. 4. If ER be parallel to the base AB, and CR parallel to the axis of the cycloid EF; the space ECR, bounded by the arc of the cycloid EC, and the lines ER and RC, shall be equal to the circle area EGK: hence it follows, if AT, perpendicular to the base AB, meet ER in T, the space ETACE will be equal to the semicircle EGF: and since AF is equal to the semicircumference EGF, the rectangle EFAT, being the rectangle of the diameter and semicircumference, will be equal to four times the semicircle EGF; and therefore the area ECAFE will be equal to three times the area of the generating semicircle EGF. Again, if you draw the line EA, the area intercepted betwixt the cycloid ECA, and the straight line EA will be equal to the semicircle EGF; for the area ECAFE is equal to three times EGF, and the triangle EAF = $AF \times \frac{1}{2} EF$, the rectangle of the semicircle and radius, and consequently equal to $2EGF$; therefore their difference the area ECAE is equal

to EGF. 5. Take $EB = OK$, draw bZ parallel to the base, meeting the generating circle in X, and the cycloid in Z, and join CZ, FX; then shall the area CZEC be equal to the sum of the triangles GFK and bFX. Hence an infinite number of segments of the cycloid may be assigned, that are perfectly quadrable.

For example, if the ordinate CK be supposed to cut the axis in the middle of the radius OE, then K and b coincide; and the area ECK becomes in that case equal to the triangle GKF, and $E bZ$ becomes equal to $F bX$, and these triangles themselves become equal.

This is the curve on which the doctrine of pendulums and time-measuring instruments in a great measure depend; Mr. Huygens having demonstrated that from whatever point or height a heavy body oscillating on a fixed center begins to descend, while it continues to move in a cycloid, the time of its falls or oscillations will be equal to each other. It is likewise demonstrable, that it is the curve of quickest descent, i. e. a body falling in it, from any given point above, to another not exactly under it, will come to this point in a less time than in any other curve passing through those two points. See the articles PENDULUM and OSCILLATION.

CYCLOIDAL, something belonging to a cycloid. See the preceding article. Hence the cycloidal space is the area bounded by the cycloid and its subtense.

CYCLEMETRY, a term sometimes used for the mensuration of circles. See the article CIRCLE.

CYCLOPÆDIA, or ENCYCLOPÆDIA, denotes the circle or compass of arts and sciences. A cyclopædia, say the authors of the french Encyclopedie, ought to explain, as much as possible, the order and connection of human knowledge.

Cyclopædias are generally in the form of dictionaries, where every branch of knowledge is resolved into its constituent parts, the description whereof is to be found under their respective articles. See the article DICTIONARY, and the Introduction to this work.

CYCLOPTERUS, the LUMP-FISH, in ichthyology, a genus of fishes of the order of the branchiostegi: it is also called the sea-owl, and by the Scots the cock-paddle.

It is distinguished from other fishes of this order, by its belly-fins growing together in the form of a funnel. It is a

clumfy fish, being very thick in proportion to its length.

CYDER, or **CIDER**, an excellent drink made of the juice of apples, especially the more curious table-kinds; the juice of these being esteemed more cordial and pleasant than that of the wild and harsh kinds, growing plentifully in the counties of Hereford, Worcester Gloucester, &c. However, mixture of fruits is a great advantage to this liquor; the meanest apples mingled together making as good cyder as the best kinds alone; but the best mixture of all, according to Mr. Worlidge, is that of red-streaks with golden rennets, observing always that they be of equal ripeness. It conduces greatly to the goodness of the cyder, to let the apples lie a week or two in heaps, before they are press'd; in doing which every man may be freely left to the customs of his own native country: but a due management of the expressed juice is of the utmost importance. After straining the liquor through a sieve, let it stand a day or two in an open tun, covered only with a cloth, or boards, to keep out the dust, that the more gross parts may subside. Then draw it off in pails into the vessels, wherein it is intended to be kept, observing to leave an eighth part of them empty. Set these vessels in your coldest cellars, with the bung open, or covered only with a loose cover, both that the volatile steams may have free vent, and that the must may be kept cool, otherwise it is apt to ferment too much. Having fermented in this manner for fifteen or twenty days, the vessel may be stopp'd up close; and, in two or three months time, the cyder will be fit for drinking. But if you expect cyder in perfection, so as to flower in the glass, it must be glued, as they call it, and drawn off into bottles, after it has been a short time in the cask: this is done by pouring into each vessel a pint of the infusion of sixty or seventy grains of the most transparent isinglass, or fish-glue, imported from Archangel, in a little white-wine and river or rain-water, stirred well together, after being strained through a linen cloth. When this viscous substance is put into the cask, it spreads itself over the surface like a net, and carries all the dregs to the bottom with it.

Ginger added to cyder, not only corrects its windiness, but makes it more brisk; and a few drops of currant-juice, besides singeing, adds a pleasant quickness to it. Honey, or sugar, mixed with some spices,

and added to flat cyder, will very much revive it.

Some commend boiling of cyder-juice, which should be done as soon as it is pressed, scumming it continually, and observing to let it boil no longer than till it acquires the colour of small beer: when cold, put it into a cask, leaving a small vent; and when it begins to bubble up out of the vent, bottle it for use.

CYDONIA, the **QUINCE-TREE**, in botany, is made by Linnæus a species of the pyrus. See **QUINCE** and **PYRUS**.

CYGNUS, the **SWAN**, in ornithology, a well-known water-fowl, ranked among the anas-kind. See the article **ANAS**.

The swan is a large and beautiful bird, of a snow-white all over; as is the wild swan, represented in plate LXIII. fig. 1. n^o 2. only somewhat less in size: the head of the tame kind is represented, *ibid*, n^o 1.

CYGNUS, in astronomy, a constellation of the northern hemisphere, consisting of 17 stars according to Ptolemy's catalogue, of 19 in Tycho's, and in the Britannic catalogue of 107.

CYLINDER, in geometry, a solid body, supposed to be generated by the rotation of a parallelogram, as C B E F, about one of its sides C F (plate LXII: fig. 8. n^o 1.) If the generating parallelogram be rectangular, as C B E F, the cylinder it produces will be a right cylinder, that is, it will have its axis perpendicular to its base. If the parallelogram be a rhombus, or rhomboides, the cylinder will be oblique or scalenous.

Properties of the CYLINDER. 1. The section of every cylinder by a plane oblique to its base, is an ellipsis. 2. The superficies of a right cylinder is equal to the periphery of the base multiplied into the length of its side. 3. The solidity of a cylinder is equal to the area of its base, multiplied into its altitude. 4. Cylinders of the same base, and standing between the same parallels are equal. 5. Every cylinder is to a spheroid inscribed in it, as 3 to 2. 6. If the altitudes of two right cylinders be equal to the diameters of their bases, those cylinders are to one another as the cubes of the diameters of their bases.

To find a circle equal to the surface of a cylinder, we have this theorem: the surface of a cylinder is equal to a circle, whose radius is a mean proportional between the diameter and height of the cylinder. The diameter of a sphere, and altitude of a cylinder equal thereto, being given, to find the diameter of the cylinder, the theorem is; the square of the diameter

Fig. 1. CYGNUS, the SWAN.



Fig. 2. COLUTEA.

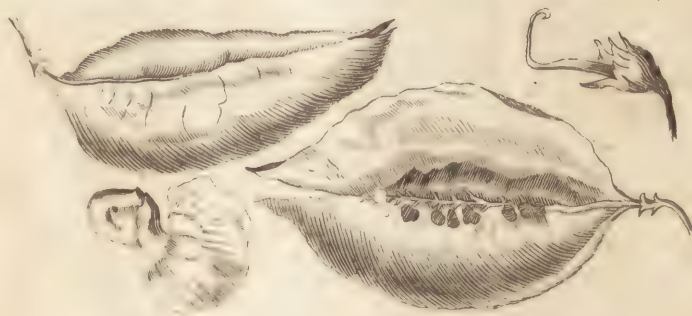








Fig. 1. CUCKOW.

Fig. 2.
CUPPING-GLASS,
& INSTRUMENT.



Fig. 3. CURLED-LEAF.



Fig. 6. CYPREA.

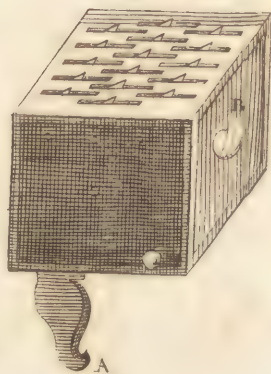


Fig. 4. CUSCUTA.

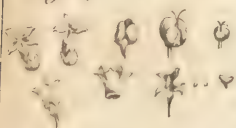


Fig. 5. CYLINDRUS.



diameter of the sphere is to the square of the diameter of the cylinder equal to it, nearly, as triple the altitude of the cylinder to double the diameter of the sphere.

Rolling, or loaded CYLINDER, in philosophy, a cylinder which rolls up an inclined plane. The phenomenon of the rolling cylinder may be easily accounted for, from what we have observed under *CENTER of gravity*. For let *ABED* (plate *LXII. fig. 8. n° 2.*) represent a section of a cylinder of wood, biased on one side with a cylndric piece of lead, as *B*; this will bring the center of gravity out of the center of magnitude *C*, to some point *G*, between *C* and *B*. Let *FH* be an inclined plane, whose base is *FL*. It is evident the cylinder laid upon the plane will no where rest but there, where a perpendicular to the horizon *FL*, passes through the center of gravity *G*, and that point of the plane *E*, in which the cylinder touches it; and this in all angles of inclination of the plane, less than that whose sine is equal to *CG*, the radius being *CD*. This will happen only in two situations, *ABED* and *abcd*; because when the cylinder moves, the center of gravity describing a circle round the center of magnitude *C*, this circle will meet the perpendicular in two points *G* and *g*, in each of which the center of gravity being supported, the cylinder will rest. Therefore the cylinder moves from *E* to *e*, by the descent of the center of gravity from *G* to *g*, in the arch of the cycloid *Gbg*.

If the cylinder *ABED* (*ibid. n° 3.*) insisting on the horizontal line *EL*, in the point *E*, has the center of gravity *G* in the horizontal diameter *DB*, it will gravitate in the perpendicular *Ge*. If therefore a plane *FH* touch the cylinder in the point *e*, it is plain the cylinder cannot either ascend or descend on such a plane; because *G*, in any situation between *e* and *H*, or *e* and *F*, will gravitate to the left or right, from the point in which the cylinder touches the plane, and so will, in either case, bring it back to the point *e*.

Scenography of a CYLINDER. See the article *SCENOGRAPHY*.

CYLINDER-CHARGE, in gunnery, that part of a great gun which is possessed by the powder and ball.

CYLINDER-CONCAVE, in gunnery, is all the chace of a piece of ordnance.

CYLINDER-VACANT, in gunnery, is that part of the hollow that remains empty, after the gun is charged. See *CANNON*.

CYLINDROID, in geometry, a solid bo-

dy, approaching to the figure of a cylinder, but differing from it in some respect, as having the bases elliptical, but parallel and equal. See the article *CYLINDER*.

Hyperbolic CYLINDROID. See the article *HYPERBOLIC*.

CYLINDRUS, in natural history, a genus of shell-fish, the shell of which is simple, without a hinge, formed of one continued piece, and of a figure approaching to that of a cylinder. Its animal inhabitant is called limax. See *LIMAX*.

The clavicle of this shell is, in some species, continuous with the rest of the shell; in others, it is divided from it by a kind of circle, and in some it is coronated. There are a great many very elegant species of it, as the brocade-shell, tulip-shell, porphyry-shell, letter-shell, &c. See plate *LXIV. fig. 5.* where *n° 1.* represents the tulip-shell, *n° 2.* the porphyry-shell, and *n° 3.* the gold-broad-shell.

CYMA, or *CYMATIUM*, in architecture. See the article *CYMATIUM*.

CYMA, in botany, the tender stalk which herbs send forth in the beginning of the spring, particularly those of the cabbage-kind.

CYMATIUM, in architecture, a member, or moulding, of the cornice, the profile of which is waved, that is, concave at top, and convex at bottom. See the article *CORNICHE*.

Vitruvius does not confine the cymatium to the cornice, but uses it indifferently for any similar moulding, wherever he meets with it, in which he differs from the most accurate among the moderns. Felibien makes two kinds of cymatiums, the one right, and the other inverted. In the first, that part which projects the farthest is concave, and is otherwise called gula recta, and doucine: in the other, the part that projects farthest is convex, called gula inversa, or salon. The english architects do not usually give the name cymatium to these mouldings, except when they are found on the tops of corniches; but the workmen use the name indifferently, wherever they are found.

Tuscan CYMATIUM consists of an oval or quarter-round. Philander makes two doric cymatiums, of which this is one. Baldus calls this the lesbian astragal.

Doric CYMATIUM is a cavetto, or a cavity less than a semicircle, having its projection subduple to its height. See the article *DORIC*.

Lesbian CYMATIUM, according to Vitruvius, is what our architects otherwise call talon, viz. a concavo-convex member, having

having its projecture subduple to its height.

CYMBAL, *κymbalos*, a musical instrument in use among the antients. The cymbal was round, made of brass, like our kettle-drums, and, as some think, in their form, but smaller, and of different use.

Cassiodorus calls it acetabulum, *i. e.* a hollow piece, the name of a cup, or cavity of a bone, wherein another is lodged or articulated.

Authors compare cymbals to the lips, because they formed sounds by pressing and striking one against another, whence they must have been composed of two several parts. Ovid gives cymbals the epithet of *genialia*, because they were used at weddings and other diversions. The Jews had their cymbals, or, at least, instruments whose translators render cymbals; but as to their matter and form, critics are still in the dark. The modern cymbal is a mean instrument, chiefly in use among vagrants, gypsies, &c.

CYMBARIA, in botany, a genus of the didynamia-angiospermia class of plants, the corolla of which consists of a single petal; the tube is oblong and ventricose; the limb ringent; the upper lip divided into two reflex and obtuse segments; the lower lip in three obtuse segments; the fruit is a roundish capsule, containing one cell, and divided by two valves; the seeds are numerous, smooth, and angulated.

CYNÆDUS, in ichthyology, a species of labrus, of a yellow colour, with a purple-coloured back, and the back-fin reaching from the head to the tail.

CYNANCHE, among physicians, denotes an inflammation of the larynx. See the article **QUINZY**.

CYNANCHUM, in botany, a genus of the pentandria-digynia class of plants, the flower of which consists of one petal, divided into five long and linear segments at the edge; the fruit is made up of two oblong and acuminate follicles, which form only one cell, wherein are numerous oblong seeds, crowned with down.

CYNANTHROPIA, in medicine, the disorder occasioned by the bite of a mad dog, wherein the patient avoids the light and every thing that is bright, and dreads the water so much, that he trembles at the sight or even the remembrance of it. See **HYDROPHOBIA**.

It is communicated to a person by the bite of any animal, as a dog, wolf, &c.

CYNARA, the **ARTICHOAK**, in botany, a genus of the syngenesia-polygamia-æqualis class of plants, the compound flower of which is tubulated and uniform,

and the hermaphrodite flowers almost equal; the proper flower is monopetalous and funnel-formed; the fruit is naked; the cup a little connivent; the seed is single, oblongo-ovate, quadrangocompressed, and crowned with a long sessile down. See plate **LXV.** fig. 5. The use of artichocks, as a food, is well known. Among physicians, both the head and root are recommended as aperitive, and therefore good in suppressions of urine and the jaundice: it is also said to be a provocative to venery, and to cure barrenness.

CYNICS, a sect of antient philosophers, who valued themselves upon their contempt of riches and state, arts and sciences, and every thing, in short, except virtue or morality.

The cynic philosophers owe their origin and institution to Antisthenes of Athens, a disciple of Socrates, who, being asked of what use his philosophy had been to him, replied, "It enables me to live with myself." Diogenes was the most famous of his disciples, in whose life the system of this philosophy appears in its greatest perfection: he led a most wretched life, a tub having served him for a lodging, which he rolled before him, wherever he went; yet he was, nevertheless, not the more humble on account of his ragged cloak, bag, and tub; for, one day, entering Plato's house, at a time that there was a splendid entertainment there, for several persons of distinction, he jumped up upon a very rich couch, in all his dirt, saying, "I trample on the pride of Plato." "Yes (replied Plato) but with great pride, Diogenes." He had the utmost contempt for all the human race, for he walked the streets of Athens, at noon-day, with a lighted lantern in his hand, telling the people, "He was in search of a man." Amongst many excellent maxims of morality, he held some very pernicious opinions; for he used to say, that the uninterrupted good fortune of Harpalus, who generally passed for a thief and a robber, was a testimony against the gods. He regarded chastity and modesty as weaknesses; hence Laetius observes of him, that he did every thing openly, whether it belonged to Ceres or Venus, though he adds that Diogenes only ran to an excess of impudence to put others out of conceit with it: but impudence was the characteristic of these philosophers, who argued, that what was right to be done, might be done at all times, and in all places. The chief

Fig. 1. CYCLOID.

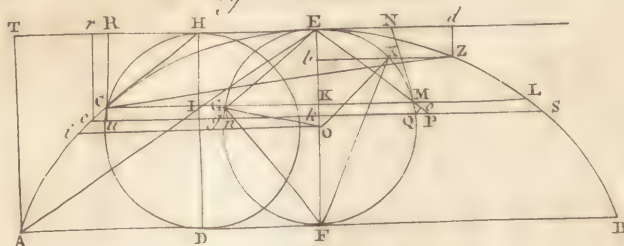


Fig. 2. CYCLAMEN.



Fig. 3. CYN OGLOSSUM.



Fig. 4. CYPERUS.



Fig. 5. CYNARA.







chief principle of this sect, in common with the stoics, was, that we should follow nature; but they differed from the stoics in their explanation of that maxim, the cynics being of opinion that a man followed nature, that gratified his natural motions and appetites; while the stoics understood right reason, by the word nature.

CYNIC SPASM, a kind of convulsion, wherein the patient imitates the howlings of dogs. See **CONVULSION**.

CYNIPS, in zoology, a genus of four-winged flies, of the hymenoptera-order, armed with a conical aculeus, or sting, at the tail.

CYNOCEPHALUS, in zoology, a name given to the larger monkeys, with a long nose, and a head resembling that of a dog: these are usually called, in english, baboons.

CYNODESMUS, among anatomists, the same with **FRÆNUM**. See **FRÆNUM**.

CYNOGLOSSUM, HOUND'S TONGUE, in botany, a genus of the pentandria-monogynia class of plants, whose corolla consists of a single petal, of the length of the cup; the tube is cylindric, and shorter than the limb, which is divided into five obtuse segments; the fruit consists of four roundish depressed capsules; the seed is single, of an oval figure, gibbous, acuminate, and smooth. See plate LXV. fig. 3.

Its roots is kept in the shops, and is esteemed a pectoral and narcotic.

Some recommend it in catarrhs, the gonorrhoea, and serophulous cases.

CYNOGLOSSUS, in ichthyology, a fish of the pleuronectes-kind, with the eyes on the right, and the anus on the left side, and furnished with sharp teeth. See the article **PLEURONECTES**.

CYNOMETRA, in botany, a genus of the decandria-monogynia class of plants, the cup of which is divided into four segments; and the fruit is a fleshy lunated pod, containing a single seed.

CYNOMORIUM, MALTESE FUNGUS, in botany, a genus of the monoecia-monandria class of plants, the flower of which is amentaceous; the female floscules being mixed with the male ones on some plants, and scarce removed from them, and neither having any corolla; the fruit is naked, and the seed single and roundish. See plate LXVI. fig. 2.

This plant is a very powerful astringent.

CYNOMUIA, the DOG-FLY, in zoology. See the article **DOG-FLY**.

CYNOREXY, among physicians, the same with bulimy. See the article **BULIMY**.

CYNOSURA, in astronomy, a name given by the Greeks to the constellation of *ursa minor*. See the article **URSA**.

This is the constellation next to the north pole.

CYNOSURUS, DOG'S TAIL GRASS, in botany, a genus of the triandria-digynia class of plants, whose corolla consists of two valves; the exterior concave, longer, and aristated; the interior, plane, without any arista: the corolla surrounds the seed, which is single, of an oblong figure, and pointed at each end.

CYON, or **CION**, among gardeners. See the article **CION**.

CYPERUS, in botany, a genus of the triandria-monogynia class of plants, having no corolla, nor any pericarpium; the seed is single, of a triquetrous form, acuminate, and having no villi or hairs. See plate LXV. fig. 4.

The roots of this plant are carminative and attenuant; they promote the menses, and are good in all chronic cases, arising from obstructions of the viscera.

CYPHER, or **CIPHER**. See **CIPHER**.

CYPHOMA, **CYPHOS**, or **CYPHOSIS**, an incurvation of the spine, forming a crookedness in the back. See **SEINE**.

CYPHONISM, in grecian antiquity, a punishment inflicted upon criminals; by fastening a collar of wood round their necks, which constrained them to keep their heads bowed down: some say, the neck, hands, and feet were fettered or inclosed within it. See **KINOPHONISM**.

CYPRÆA, a kind of snail-shells, of an oval contorted figure, and with a longitudinal aperture.

To this genus belong the *concha veneris* and the *moneta guineensis*, the former of which is represented in plate LXV. fig. 5.

CYPRESS, *cupressus*, the english name of a genus of trees. See **CUPRESSUS**.

Summer-CYPRESS, the same with the *chenopodium* of botanists. See the article **CHENOPODIUM**.

CYPRINUS, in ichthyology, a very comprehensive genus of fishes of the order of the m. pterygii, the characters of which are these: the branchiostegic membrane on each side contains three small bones; the mouth is toothless, except that towards the orifice of the stomach there are two serrated bones, which serve instead of teeth.

This is a very numerous genus, comprehending the roach, tench, carp, gudgeon, barbel, chub, bream, bleak, &c.

CYPRIPEDIUM, LADIES SLIPPER, in botany, a genus of plants of the gy-

randia-

nandria-diandria class, the flower of which consists of four or five very long, erect, and narrow petals; the fruit is an oval unilocular capsule, containing a great number of minute seeds.

CYPRUS, an island situated in the most easterly part of the Levant, or Mediterranean sea, between 33° and 36° east longitude, and between 34° and 36° north latitude.

It is about one hundred and fifty miles long and seventy broad, and is subject to the Turks.

Knights of CYPRUS, an order instituted by Guy de Lusignan, titular king of Jerusalem, to whom Richard I. of England, after conquering this island, made over his right.

These knights were also denominated knights of silence, and knights of the sword.

CYRENAICS, *cyrenaici*, a sect of ancient philosophers, so called from their founder, Aristippus of Cyrene, a disciple of Socrates.

The great principle of their doctrine was, that the supreme good of man in this life is pleasure; whereby they not only meant a privation of pain and a tranquillity of mind, but an assemblage of all mental and sensual pleasures, particularly the last. See the article **EPICUREAN**.

CYST, the bag, or tunic, including all incysted tumors, as the schirrus, atheroma, steatoma, meliceris, &c. See the articles **SCIRRHUS**, **ATHEROMA**, &c.

If in extracting an incysted tumour, the including cyst be broke, or wounded, care must be taken to remove it, otherwise the tumour will speedily return. See the article *Encysted TUMOURS*.

Indeed if the tumour be a scirrus, sarcoma, steatoma, or in a glandular part, the contents are hard enough to make a clean extirpation of it, notwithstanding its including coats be wounded: but when the matter of the tumour is soft or fluid, by its escaping, the tumour will become flaccid, so that it will hardly be possible to make a clean extirpation of the cyst, without leaving some fragment behind, which must in that case be brought away by dressing the abscess with digestives, &c. See the article **ABSCCESS**.

CYSTIC, a name given to two arteries and two veins, opening into the gall bladder. The cystic arteries, *cysticae gemellae*, are two arteries proceeding from the right branch of the coeliac; and that trunk of

the vena porta, which goes into the liver affords the cystic veins.

CYSTIC DUCT, *cysticus ductus*, a pipe that goes into the neck of the cystis, or gall-bladder, into which some bilious ducts likewise open, and through which the greater part of the bile is evidently carried into the cystis, in human subjects.

CYSTIC BILE, one of the two kinds of bile, being distinguished into the cystic and hepatic bile. See the article **BILE**. The cystic bile is very bitter, thicker, and more coloured than the hepatic.

CYSTIS, in anatomy, the same with vesicula, or bladder. See **BLADDER** and **VESICULA**.

CYTISUS, **SHRUB-TREFOIL**, in botany, a genus of plants of the diadelphia-decandria class, with a papilionaceous flower, and an oblong, obtuse, and rigid pod for its fruit, wherein are a few compressed and kidney-like seeds. The leaves of cytiscus are esteemed cooling and discutient.

CYZICENS, *cyzicena*, a sort of magnificent banquetting-houses, among the ancient Greeks, so called from Cyzicus, a city famous for its sumptuous buildings. The cyzicens always looked to the north, opened into pleasant gardens, and were the same as the triclinia and coenacula were at Rome.

CZAR, a title of honour assumed by the great dukes, or, as they are now styled, emperors of Russia.

Beeman makes no doubt but they took this title, by corruption, from caesar, emperor; and, accordingly they bear an eagle, as the symbol of their empire, and the word **CÆSAR** in their arms: yet they make a distinction between czar and caesar, the first being taken for the king's name, and the other for the emperor's. The first that bore this title was Basil, the son of Basilides, under whom the russian power began to appear, about 1470.

CZERNIGOF, the capital of the province of Czernigof, in Russia, near the frontiers of Poland: east long. $31^{\circ} 30'$, and north lat. $52^{\circ} 30'$.

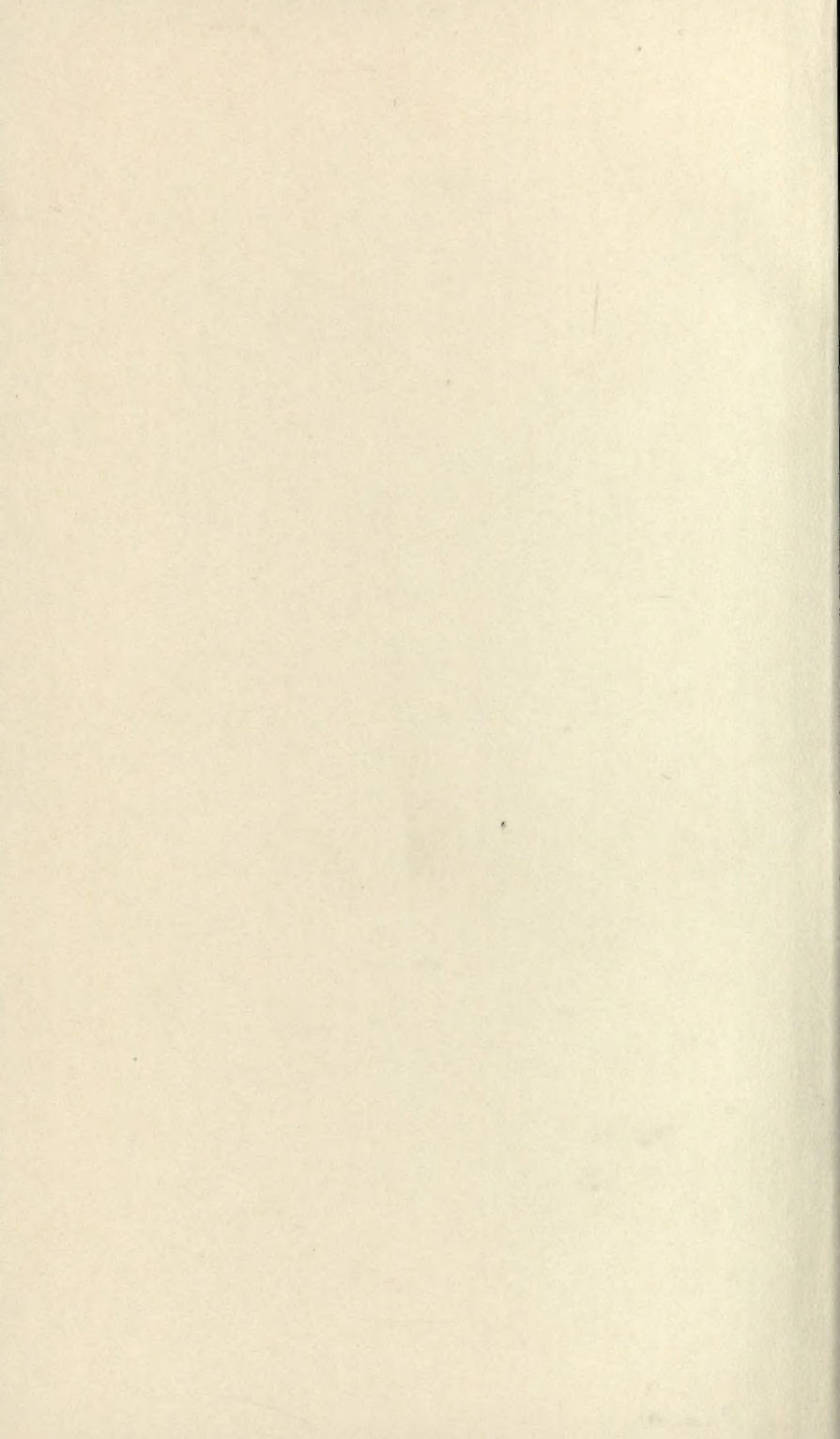
CZERSKOW, a town of Warsovia, in Poland, situated on the river Vistula, about thirty miles south of Warsaw: east long. $21^{\circ} 30'$, and north lat. $52^{\circ} 30'$.

CZONGRODT, a town of Hungary, situated on the river Thiesse, about thirteen miles north of Segedin: east longitude $20^{\circ} 45'$, and north latitude $46^{\circ} 36'$.



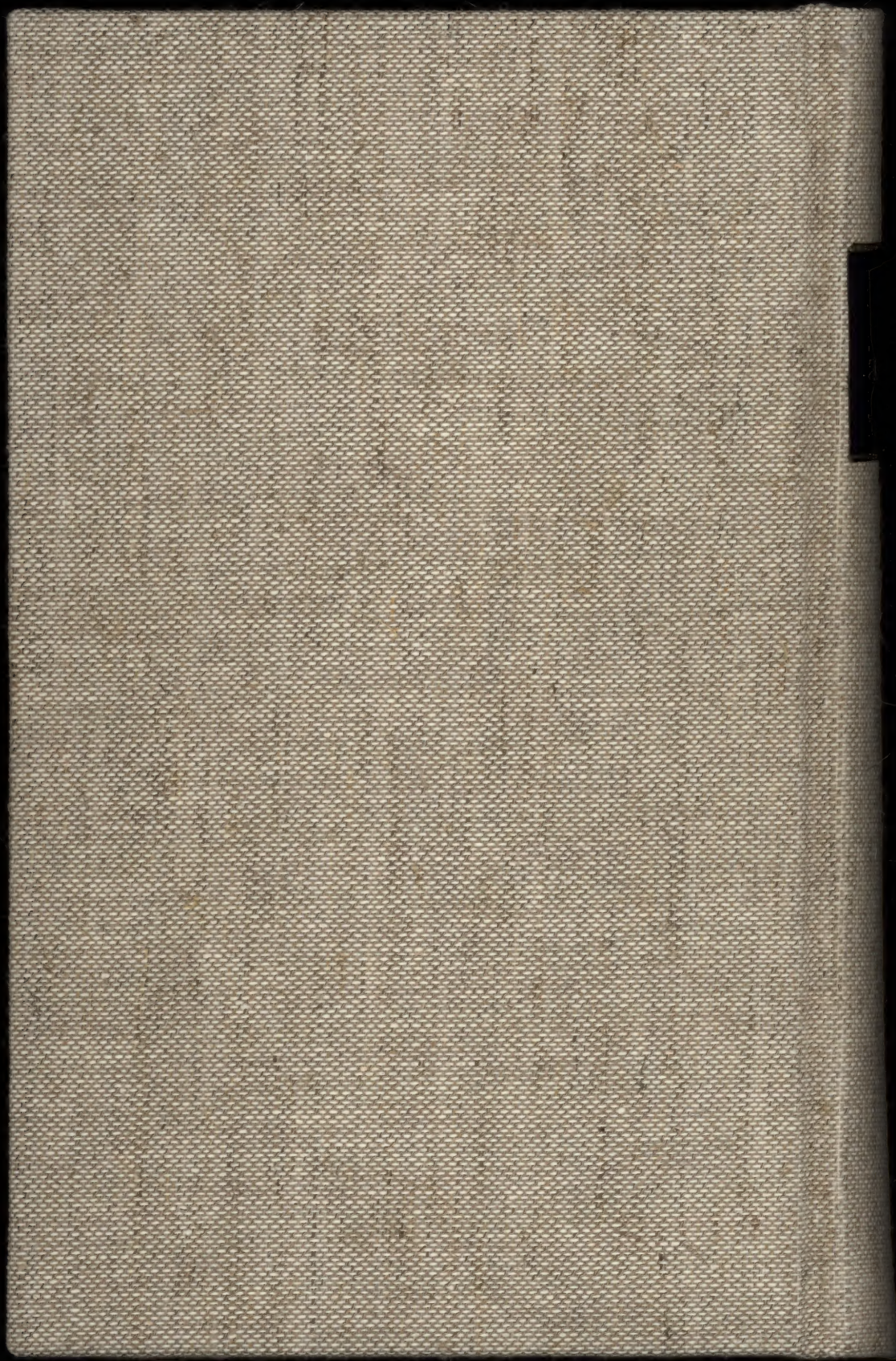






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